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(54) Title: NUCLEIC ACIDS, PROTEINS, AND ANTIBODIES

(57) Abstract: The present invention relates to novel ovarian related polynucleotides and the polypeptides encoded by these polynucleotides herein collectively known as "ovarian antigens", and the use of such ovarian antigens for detecting disorders of the ovaries and/or breast, particularly the presence of ovarian and/or breast cancer and ovarian and/or breast cancer metastases. More specifically, isolated ovarian associated nucleic acid molecules are provided encoding novel ovarian associated polypeptides. Novel ovarian polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human ovarian associated polynucleotides and/or polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the ovaries and/or breast, including ovarian and/or breast cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting the production and function of the polypeptides of the present invention.

Nucleic Acids, Proteins, and Antibodies

[0001] This application refers to a "Sequence Listing" that is provided on electronic media in computer readable form pursuant to Administrative Instructions Section 801(a)(i). The Sequence Listing forms a part of this description pursuant to Rule 5.2 and Administrative Instructions Sections 801 to 806, and is hereby incorporated in its entirety.

[0002] The Sequence Listing is provided as an electronic file (PA133PCTSL.txt, 7,347,875 bytes in size, created on 07 June 2001) on four identical compact discs (CD-R), labeled "COPY 1," "COPY 2," "COPY 3," and "CRF." The Sequence Listing complies with Annex C of the Administrative Instructions, and may be viewed, for example, on an IBM-PC machine running the MS-Windows operating system by using the V viewer software, version 2000 (see World Wide Web URL: http://www.fileviewer.com).

Field of the Invention

[0003] The present invention relates to novel ovarian related polynucleotides, the polypeptides encoded by these polynucleotides herein collectively referred to as "ovarian antigens," and antibodies that immunospecifically bind these polypeptides, and the use of such ovarian polynucleotides, antigens, and antibodies for detecting, treating, preventing and/or prognosing disorders of the reproductive system, particularly disorders of the ovaries and/or breast, including, but not limited to, the presence of ovarian and/or breast cancer and ovarian and/or breast cancer metastases. More specifically, isolated ovarian nucleic acid molecules are provided encoding novel ovarian polypeptides. Novel ovarian

nucleic acid molecules are provided encoding novel ovarian polypeptides. Novel ovarian polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human ovarian polynucleotides, polypeptides, and/or antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the ovaries and/or breast, including ovarian and/or breast cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The invention further relates to methods and/or compositions for inhibiting or promoting the production and/or function of the polypeptides of the invention.

Background of the Invention

[0004] The female reproductive system is comprised of both external and internal organs. The external organs function in permitting sperm to enter the body and protecting the internal genital organs from infection and injury. The internal organs form a pathway (the genital tract) for reproduction, beginning at the ovaries, through the fallopian tubes (oviducts) and uterus, to the birth canal (vagina).

[0005] The sexual and reproductive functions in the female can be divided into two major phases: first, preparation of the body for conception, and second, the gestation and parturition. Gestation and parturition only occur if an ovum becomes fertilized. If fertilization does not occur, the reproductive system undergoes a cycle to ensure frequent readiness for conception and fertilization.

[0006] The complexity of the female reproductive system renders it susceptible to several diseases and disorders. In particular, the ovaries and breast are subject to diseases and/or disorders such as infections, hyperproliferative disorders, as well as regulatory and genetic abnormalities.

Disorders of the Ovary

[0007] A woman's ovaries are located on both sides of the uterus, below the opening of the fallopian tubes (tubes that extend from the uterus to the ovaries). In

addition to producing egg cells for reproduction, the ovaries produce estrogen and progesterone, which affect many of the female characteristics and reproductive functions.

[0008] Anovulation (the absence of egg release by the ovaries) is a serious condition leading to infertility. The exact etiology of anovulation, especially in women with otherwise normal menstrual cycles, is unclear, however several potential causes are under study, including: impaired follicular development (probably due to low or absent estrogen production or binding), normal follicular development with lack of egg release (probably due to progesterone deficiency), or insufficient production of gonadotropin-releasing hormone from the hypothalamus. Current treatments include clomiphene injections or hormonal therapy, although both can lead to serious side effects such as ovarian cancer and ovarian hyperstimulation syndrome.

[0009] Anovulation is also associated with polycyctic ovary syndrome (also known as Stein-Leventhal syndrome). This syndrome is and endocrine disorder characterized by an elevated level of male hormones (androgens). Other than anovulation, symptoms include growth of male-patterned body hair (hirsutism), excessive acne, irregular or absent menses, excessive bleeding, and obesity. Usually, the ovaries appear enlarged and may contain many follicular cysts.

[0010] Ovarian cancer develops most often in women between the ages of 50 and 70. It is the third most common cancer of the female reproductive system, but more women die of ovarian cancers than of any other. Ovaries include a variety of cell types, each of which may give rise to a distinct type of cancer, including, but not limited to, ovarian epithelial cancer, ovarian germ cell tumors, ovarian papillary serous adenocarcinoma, ovarian mucinous adenocarcinoma, ovarian Krukenberg tumor, malignant mixed Mullerian tumors, and ovarian low malignant tumors.

[0011] Other disorders of the ovaries also include, but are not limited to, inflammatory disorders, such as oophoritis (e.g., caused by viral or bacterial infection), ovarian cysts, and autoimmune disorders (e.g., premature ovarian failure and autoimmune oophoritis).

Disorders of the Breast

[0012] The breast is comprised of different structures, each with its own specific function. One-third of the breast is comprised of fatty tissue. The other two-thirds is made

up of structural components called ducts and lobules. Milk is produced in the lobules and funneled through the ducts to the nipple. Disorders of the breast typically involve the formation of lesions within breast tissue. While many of these lesions are benign in nature, they may lead to cancer if left untreated.

[0013] Benign breast lesions include, for example, cysts, which are non-cancerous, fluid-filled sacs that forma mass within breast tissue. The cause of breast cysts is unknown, though injury may be involved, and their main symptom is pain. While considered harmless, a professional should drain cysts and the fluid examined because cancer of the cyst wall, although quite rare, is possible.

[0014] Other benign breast lesions include fibrous breast lumps (fibroadenomas), breast infection (mastitis), intraductal papilloma, and abscesses. Fibrous breast lumps are small, solid lumps of glandular tissue. These lumps usually appear in young women, often in teenagers, and are easy to remove. Intraductal papilloma are small lumps located within a milk duct, often causing inappropriate discharge from the nipple. Breast abscesses are collections of pus in breast tissue that develop from breast infections that go untreated.

Breast cancer is the most common cancer among women, other than skin cancer and is the second leading cause of cancer death in women, after lung cancer. The American Cancer Society predicts that there will be about 182,800 new cases of invasive breast cancer in the year 2000 among women in this country and about 40,800 deaths from the disease. Breast cancer also occurs among men, although much less often. It is generally believed that this malignancy arises from a multi step process involving mutations in a relatively small number of genes, perhaps 10 or less. These mutations result in significant changes in the growth and differentiation of breast tissue that allow it to grow independent of normal cellular controls, to metastasize, and to escape immune surveillance. The genetic heterogeneity of most breast cancers suggests that they arise by a variety of initiating events and that the characteristics of individual cancers are due to the collective pattern of genetic changes that accumulate.

[0016] The discovery of new human ovarian associated polynucleotides, the polypeptides encoded by them, and antibodies that immunospecifically bind these polypeptides, satisfies a need in the art by providing new compositions which are useful in

the diagnosis, treatment, prevention and/or prognosis of disorders of the ovaries and/or breast, including, but not limited to, neoplastic disorders (e.g., ovarian Krukenberg tumor, malignant mixed Mullerian tumors, and/or as described under "Hyperproliferative Disorders" below), infectious diseases (e.g., mastitis, oophoritis, and/or as described under "Infectious Diseases" below), and inflammatory diseases (e.g., abcesses and/or as described under "Immune Disorders" below) and as described in "Reproductive System Disorders" below.

Summary of the Invention

[0017] The present invention relates to novel ovarian related polynucleotides, the polypeptides encoded by these polynucleotides herein collectively referred to as "ovarian antigens," and antibodies that immunospecifically bind these polypeptides, and the use of such ovarian polynucleotides, antigens, and antibodies for detecting, treating, preventing and/or prognosing disorders of the reproductive system, particularly disorders of the ovaries and/or breast, including, but not limited to, the presence of ovarian and/or breast cancer and ovarian and/or breast cancer metastases. More specifically, isolated ovarian nucleic acid molecules are provided encoding novel ovarian polypeptides. Novel ovarian polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human ovarian polynucleotides, polypeptides, and/or antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the ovaries and/or breast, including ovarian and/or breast cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The invention further relates to methods and/or compositions for inhibiting or promoting the production and/or function of the polypeptides of the invention.

Detailed Description

Tables

[0018] Table 1 summarizes some of the polynucleotides encompassed by the invention (including cDNA clones related to the sequences (Clone ID NO:Z), contig sequences (contig identifier (Contig ID:) and contig nucleotide sequence identifier (SEO ID NO:X)) and further summarizes certain characteristics of these polynucleotides and the polypeptides encoded thereby. The first column provides a unique clone identifier. "Clone ID NO:Z", for a cDNA plasmid related to each ovarian associated contig sequence disclosed in Table 1. The second column provides a unique contig identifier, "Contig ID:" for each of the contig sequences disclosed in Table 1. The third column provides the sequence identifier, "SEQ ID NO:X", for each of the contig polynucleotide sequences disclosed in Table 1. The fourth column, "ORF (From-To)", provides the location (i.e., nucleotide position numbers) within the polynucleotide sequence of SEQ ID NO:X that delineate the preferred open reading frame (ORF) shown in the sequence listing and referenced in Table 1 as SEQ ID NO:Y (column 5). Column 6 lists residues comprising predicted epitopes contained in the polypeptides encoded by each of the preferred ORFs (SEQ ID NO:Y). Identification of potential immunogenic regions was performed according to the method of Jameson and Wolf (CABIOS, 4:181-186 (1988)); specifically, the Genetics Computer Group (GCG) implementation of this algorithm, embodied in the program PEPTIDESTRUCTURE (Wisconsin Package v10.0, Genetics Computer Group (GCG), Madison, Wisc.). This method returns a measure of the probability that a given residue is found on the surface of the protein. Regions where the antigenic index score is greater than 0.9 over at least 6 amino acids are indicated in Table 1 as "Predicted Epitopes." In particular embodiments, ovarian associated polypeptides of the invention comprise, or alternatively consist of, one, two, three, four, five or more of the predicted epitopes described in Table 1. It will be appreciated that depending on the analytical criteria used to predict antigenic determinants, the exact address of the determinant may vary slightly. Column 7, "Tissue Distribution" shows the expression profile of tissue, cells, and/or cell line libraries which express the polynucleotides of the invention. The first number in column 7 (preceding the colon), represents the tissue/cell source identifier

code corresponding to the code and description provided in Table 4. Expression of these polynucleotides was not observed in the other tissues and/or cell libraries tested. For those identifier codes in which the first two letters are not "AR", the second number in column 7 (following the colon), represents the number of times a sequence corresponding to the reference polynucleotide sequence (e.g., SEQ ID NO:X) was identified in the tissue/cell source. Those tissue/cell source identifier codes in which the first two letters are "AR" designate information generated using DNA array technology. Utilizing this technology, cDNAs were amplified by PCR and then transferred, in duplicate, onto the array. Gene expression was assayed through hybridization of first strand cDNA probes to the DNA array. cDNA probes were generated from total RNA extracted from a variety of different tissues and cell lines. Probe synthesis was performed in the presence of ³³P dCTP, using oligo(dT) to prime reverse transcription. After hybridization, high stringency washing conditions were employed to remove non-specific hybrids from the array. The remaining signal, emanating from each gene target, was measured using a Phosphorimager. Gene expression was reported as Phosphor Stimulating Luminescence (PSL) which reflects the level of phosphor signal generated from the probe hybridized to each of the gene targets represented on the array. A local background signal subtraction was performed before the total signal generated from each array was used to normalize gene expression between the different hybridizations. The value presented after "[array code]:" represents the mean of the duplicate values, following background subtraction and probe normalization. One of skill in the art could routinely use this information to identify normal and/or diseased tissue(s) which show a predominant expression pattern of the corresponding polynucleotide of the invention or to identify polynucleotides which show predominant and/or specific tissue and/or cell expression. Column 8, "Cytologic Band," provides the chromosomal location of polynucleotides corresponding to SEQ ID NO:X. Chromosomal location was determined by finding exact matches to EST and cDNA sequences contained in the NCBI (National Center for Biotechnology Information) UniGene database. Given a presumptive chromosomal location, disease locus association was determined by comparison with the Morbid Map, derived from Online Mendelian Inheritance in Man (Online Mendelian Inheritance in Man, OMIM™. McKusick-Nathans Institute for Genetic Medicine, Johns Hopkins University (Baltimore, MD) and National Center for Biotechnology Information, National Library of Medicine (Bethesda, MD) 2000. World

Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/). If the putative chromosomal location of the Query overlapped with the chromosomal location of a Morbid Map entry, an OMIM identification number is provided in column 9 labeled "OMIM Disease Reference(s)". A key to the OMIM reference identification numbers is provided in Table 5.

[0019] Table 2 summarizes homology and features of some of the polypeptides of the invention. The first column provides a unique clone identifier, "Clone ID NO:Z", corresponding to a cDNA disclosed in Table 1. The second column provides the unique contig identifier, "Contig ID:" corresponding to contigs in Table 1 and allowing for correlation with the information in Table 1. The third column provides the sequence identifier, "SEQ ID NO:X", for the contig polynucleotide sequences. The fourth column provides the analysis method by which the homology/identity disclosed in the row was determined. Comparisons were made between polypeptides encoded by the polynucleotides of the invention and either a non-redundant protein database (herein referred to as "NR"), or a database of protein families (herein referred to as "PFAM") as further described below. The fifth column provides a description of PFAM/NR hits having significant matches to a polypeptide of the invention. Column six provides the accession number of the PFAM/NR hit disclosed in the fifth column. Column seven, "Score/Percent Identity", provides a quality score or the percent identity, of the hit disclosed in column five. Columns 8 and 9, "NT From" and "NT To" respectively, delineate the polynucleotides in "SEQ ID NO:X" that encode a polypeptide having a significant match to the PFAM/NR database as disclosed in the fifth column. In specific embodiments, polypeptides of the invention comprise, or alternatively consist of, an amino acid sequence encoded by the polynucleotides in SEQ ID NO:X as delineated in columns 8 and 9, or fragments or variants thereof.

Table 3 provides polynucleotide sequences that may be disclaimed according to certain embodiments of the invention. The first column provides a unique clone identifier, "Clone ID NO:Z", for a cDNA clone related to ovarian associated contig sequences disclosed in Table 1. The second column provides the sequence identifier, "SEQ ID NO:X", for contig polynucleotide sequences disclosed in Table 1. The third column provides the unique contig identifier, "Contig ID", for contigs disclosed in Table 1. The fourth column provides a unique integer 'a' where 'a' is any integer between 1 and

the final nucleotide minus 15 of SEQ ID NO:X, represented as "Range of a", and the fifth column provides a unique integer 'b' where 'b' is any integer between 15 and the final nucleotide of SEQ ID NO:X, represented as "Range of b", where both a and b correspond to the positions of nucleotide residues shown in SEQ ID NO:X, and where b is greater than or equal to a + 14. For each of the polynucleotides shown as SEQ ID NO:X, the uniquely defined integers can be substituted into the general formula of a-b, and used to describe polynucleotides which may be preferably excluded from the invention. In certain embodiments, preferably excluded from the polynucleotides of the invention (including polynucleotide fragments and variants as described herein and diagnostic and/or therapeutic uses based on these polynucleotides) are at least one, two, three, four, five, ten, or more of the polynucleotide sequence(s) having the accession number(s) disclosed in the sixth column of this Table. In further embodiments, preferably excluded from the invention are the specific polynucleotide sequence(s) contained in the clones corresponding to at least one, two, three, four, five, ten, or more of the available material having the accession numbers identified in the sixth column of this Table.

Table 4 provides a key to the tissue/cell source identifier code disclosed in Table 1, column 7. Column 1 provides the key to the tissue/cell source identifier code disclosed in Table 1, Column 7. Columns 2-5 provide a description of the tissue or cell source. Codes corresponding to diseased tissues are indicated in column 6 with the word "disease". The use of the word "disease" in column 6 is non-limiting. The tissue or cell source may be specific (e.g. a neoplasm), or may be disease-associated (e.g., a tissue sample from a normal portion of a diseased organ). Furthermore, tissues and/or cells lacking the "disease" designation may still be derived from sources directly or indirectly involved in a disease state or disorder, and therefore may have a further utility in that disease state or disorder. In numerous cases where the tissue/cell source is a library, column 7 identifies the vector used to generate the library.

Table 5 provides a key to the OMIMTM reference identification numbers disclosed in Table 1, column 9. OMIM reference identification numbers (Column 1) were derived from Online Mendelian Inheritance in Man (Online Mendelian Inheritance in Man, OMIMTM. McKusick-Nathans Institute for Genetic Medicine, Johns Hopkins University (Baltimore, MD) and National Center for Biotechnology Information, National Library of Medicine, (Bethesda, MD) 2000. World Wide Web URL:

http://www.ncbi.nlm.nih.gov/omim/). Column 2 provides diseases associated with the cytologic band disclosed in Table 1, column 8, as determined from the Morbid Map database.

[0023] Table 6 summarizes ATCC Deposits, Deposit dates, and ATCC designation numbers of deposits made with the ATCC in connection with the present application.

[0024] Table 7 shows the cDNA libraries sequenced, tissue source description, vector information and ATCC designation numbers relating to these cDNA libraries.

Definitions

[0025] The following definitions are provided to facilitate understanding of certain terms used throughout this specification.

In the present invention, "isolated" refers to material removed from its original environment (e.g., the natural environment if it is naturally occurring), and thus is altered "by the hand of man" from its natural state. For example, an isolated polynucleotide could be part of a vector or a composition of matter, or could be contained within a cell, and still be "isolated" because that vector, composition of matter, or particular cell is not the original environment of the polynucleotide. The term "isolated" does not refer to genomic or cDNA libraries, whole cell total or mRNA preparations, genomic DNA preparations (including those separated by electrophoresis and transferred onto blots), sheared whole cell genomic DNA preparations or other compositions where the art demonstrates no distinguishing features of the polynucleotide sequences of the present invention.

As used herein, a "polynucleotide" refers to a molecule having a nucleic acid sequence encoding SEQ ID NO:Y or a fragment or variant thereof; a nucleic acid sequence contained in SEQ ID NO:X (as described in column 3 of Table 1) or the complement thereof; or a cDNA sequence contained in Clone ID NO:Z (as described in column 1 of Table 1 and contained within a library deposited with the ATCC). For example, the polynucleotide can contain the nucleotide sequence of the full length cDNA sequence, including the 5' and 3' untranslated sequences, the coding region, as well as fragments, epitopes, domains, and variants of the nucleic acid sequence. Moreover, as used herein, a "polypeptide" refers to a molecule having an amino acid sequence encoded by a polynucleotide of the invention as broadly defined (obviously excluding poly-

Phenylalanine or poly-Lysine peptide sequences which result from translation of a polyA tail of a sequence corresponding to a cDNA).

As used herein, an "ovarian antigen" refers collectively to any polynucleotide disclosed herein (e.g., a nucleic acid sequence contained in SEQ ID NO:X or the complement therof, or cDNA sequence contained in Clone ID NO:Z, (e.g., a nucleic acid sequence contained in SEQ ID NO:X or the complement thereof, or cDNA sequence contained in Clone ID NO:Z, and fragments or variants thereof as described herein) or any polypeptide disclosed herein (e.g., an amino acid sequence contained in SEQ ID NO:Y, an amino acid sequence encoded by SEQ ID NO:X, or the complement thereof, an amino acid sequence encoded by the cDNA sequence contained in Clone ID NO:Z, and fragments or variants thereof as described herein). These ovarian antigens have been determined to be predominantly expressed in ovarian tissues, including normal or diseased tissues (as shown in Table 1 column 7 and Table 4).

In the present invention, "SEQ ID NO:X" was often generated by 100291 overlapping sequences contained in multiple clones (contig analysis). A representative clone containing all or most of the sequence for SEQ ID NO:X is deposited at Human Genome Sciences, Inc. (HGS) in a catalogued and archived library. As shown, for example, in column 1 of Table 1, each clone is identified by a cDNA Clone ID (identifier generally referred to herein as Clone ID NO:Z). Each Clone ID is unique to an individual clone and the Clone ID is all the information needed to retrieve a given clone from the HGS library. Furthermore, certain clones disclosed in this application have been deposited with the ATCC on June 5, 2000 and were given ATCC Deposit Nos. PTA-1982 and PTA-1985. In addition to the individual cDNA clone deposits, most of the cDNA libraries from which the clones were derived were deposited at the American Type Culture Collection (hereinafter "ATCC"). Table 7 provides a list of the deposited cDNA libraries. One can use the Clone ID NO:Z to determine the library source by reference to Tables 6 and 7. Table 7 lists the deposited cDNA libraries by name and links each library to an ATCC Deposit. Library names contain four characters, for example, "HTWE." The name of a cDNA clone (Clone ID NO:Z) isolated from that library begins with the same four characters, for example "HTWEP07". As mentioned below, Table 1 correlates the Clone ID NO:Z names with SEQ ID NO:X. Thus, starting with an SEQ ID NO:X, one can use Tables 1A, 6 and 7 to determine the corresponding Clone ID NO:Z, which library it came

from and which ATCC deposit the library is contained in. Furthermore, it is possible to retrieve a given cDNA clone from the source library by techniques known in the art and described elsewhere herein. The ATCC is located at 10801 University Boulevard, Manassas, Virginia 20110-2209, USA. The ATCC deposits were made pursuant to the terms of the Budapest Treaty on the international recognition of the deposit of microorganisms for the purposes of patent procedure.

In specific embodiments, the polynucleotides of the invention are at least 15, at least 30, at least 50, at least 100, at least 125, at least 500, or at least 1000 continuous nucleotides but are less than or equal to 300 kb, 200 kb, 100 kb, 50 kb, 15 kb, 10 kb, 7.5 kb, 5 kb, 2.5 kb, 2.0 kb, or 1 kb, in length. In a further embodiment, polynucleotides of the invention comprise a portion of the coding sequences, as disclosed herein, but do not comprise all or a portion of any intron. In another embodiment, the polynucleotides comprising coding sequences do not contain coding sequences of a genomic flanking gene (i.e., 5' or 3' to the gene of interest in the genome). In other embodiments, the polynucleotides of the invention do not contain the coding sequence of more than 1000, 500, 250, 100, 50, 25, 20, 15, 10, 5, 4, 3, 2, or 1 genomic flanking gene(s).

[0031] A "polynucleotide" of the present invention also includes those polynucleotides capable of hybridizing, under stringent hybridization conditions, to sequences contained in SEQ ID NO:X, or the complement thereof (e.g., the complement of any one, two, three, four, or more of the polynucleotide fragments described herein), the polynucleotide sequence delineated in columns 8 and 9 of Table 2 or the complement thereof, and/or cDNA sequences contained in Clone ID NO:Z (e.g., the complement of any one, two, three, four, or more of the polynucleotide fragments, ans/or the cDNA clone within the pool of cDNA clones deposited with the ATCC, described herein). "Stringent hybridization conditions" refers to an overnight incubation at 42 degree C in a solution comprising 50% formamide, 5x SSC (750 mM NaCl, 75 mM trisodium citrate), 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 μg/ml denatured, sheared salmon sperm DNA, followed by washing the filters in 0.1x SSC at about 65 degree C.

[0032] Also contemplated are nucleic acid molecules that hybridize to the polynucleotides of the present invention at lower stringency hybridization conditions.

Changes in the stringency of hybridization and signal detection are primarily accomplished through the manipulation of formamide concentration (lower percentages of formamide result in lowered stringency), salt conditions, or temperature. For example, lower stringency conditions include an overnight incubation at 37 degree C in a solution comprising 6X SSPE (20X SSPE = 3M NaCl; 0.2M NaH₂PO₄; 0.02M EDTA, pH 7.4), 0.5% SDS, 30% formamide, 100 ug/ml salmon sperm blocking DNA; followed by washes at 50 degree C with 1XSSPE, 0.1% SDS. In addition, to achieve even lower stringency, washes performed following stringent hybridization can be done at higher salt concentrations (e.g. 5X SSC).

[0033] Note that variations in the above conditions may be accomplished through the inclusion and/or substitution of alternate blocking reagents used to suppress background in hybridization experiments. Typical blocking reagents include Denhardt's reagent, BLOTTO, heparin, denatured salmon sperm DNA, and commercially available proprietary formulations. The inclusion of specific blocking reagents may require modification of the hybridization conditions described above, due to problems with compatibility.

[0034] Of course, a polynucleotide which hybridizes only to polyA+ sequences (such as any 3' terminal polyA+ tract of a cDNA shown in the sequence listing), or to a complementary stretch of T (or U) residues, would not be included in the definition of "polynucleotide," since such a polynucleotide would hybridize to any nucleic acid molecule containing a poly (A) stretch or the complement thereof (e.g., practically any double-stranded cDNA clone generated using oligo dT as a primer).

[0035] The polynucleotide of the present invention can be composed of any polyribonucleotide or polydeoxribonucleotide, which may be unmodified RNA or DNA or modified RNA or DNA. For example, polynucleotides can be composed of single- and double-stranded DNA, DNA that is a mixture of single- and double-stranded regions, single- and double-stranded RNA, and RNA that is mixture of single- and double-stranded regions, hybrid molecules comprising DNA and RNA that may be single-stranded or, more typically, double-stranded or a mixture of single- and double-stranded regions. In addition, the polynucleotide can be composed of triple-stranded regions comprising RNA or DNA or both RNA and DNA. A polynucleotide may also contain one or more modified bases or DNA or RNA backbones modified for stability or for other reasons.

"Modified" bases include, for example, tritylated bases and unusual bases such as inosine. A variety of modifications can be made to DNA and RNA; thus, "polynucleotide" embraces chemically, enzymatically, or metabolically modified forms.

[0036] The polypeptide of the present invention can be composed of amino acids joined to each other by peptide bonds or modified peptide bonds, i.e., peptide isosteres, and may contain amino acids other than the 20 gene-encoded amino acids. The polypeptides may be modified by either natural processes, such as posttranslational processing, or by chemical modification techniques which are well known in the art. Such modifications are well described in basic texts and in more detailed monographs, as well as in a voluminous research literature. Modifications can occur anywhere in a polypeptide, including the peptide backbone, the amino acid side-chains and the amino or carboxyl termini. It will be appreciated that the same type of modification may be present in the same or varying degrees at several sites in a given polypeptide. Also, a given polypeptide may contain many types of modifications. Polypeptides may be branched, for example, as a result of ubiquitination, and they may be cyclic, with or without branching. Cyclic, branched, and branched cyclic polypeptides may result from posttranslation natural processes or may be made by synthetic methods. Modifications include acetylation, acylation, ADP-ribosylation, amidation, covalent attachment of flavin, covalent attachment of a heme moiety, covalent attachment of a nucleotide or nucleotide derivative, covalent attachment of a lipid or lipid derivative, covalent attachment of phosphotidylinositol, cross-linking, cyclization, disulfide bond formation, demethylation, formation of covalent cross-links, formation of cysteine, formation of pyroglutamate, formylation, gamma-carboxylation, glycosylation, GPI anchor formation, hydroxylation, iodination, methylation, myristoylation, oxidation, pegylation, proteolytic processing, phosphorylation, prenylation, racemization, selenoylation, sulfation, transfer-RNA mediated addition of amino acids to proteins such as arginylation, and ubiquitination. (See, for instance, PROTEINS - STRUCTURE AND MOLECULAR PROPERTIES, 2nd Ed., T. Creighton, W. H. Freeman and Company, New York (1993); E. POSTTRANSLATIONAL COVALENT MODIFICATION OF PROTEINS, B. C. Johnson, Ed., Academic Press, New York, pgs. 1-12 (1983); Seifter et al., Meth. Enzymol. 182:626-646 (1990); Rattan et al., Ann. N.Y. Acad. Sci. 663:48-62 (1992).)

"SEQ ID NO:X" refers to a polynucleotide sequence described, for example, in Tables 1A or 2, while "SEQ ID NO:Y" refers to a polypeptide sequence described in column 5 of Table 1. SEQ ID NO:X is identified by an integer specified in column 3 of Table 1. The polypeptide sequence SEQ ID NO:Y is a translated open reading frame (ORF) encoded by polynucleotide SEQ ID NO:X. "Clone ID NO:Z" refers to a cDNA clone described in column 1 of Table 1.

"A polypeptide having biological activity" refers to a polypeptide exhibiting activity similar to, but not necessarily identical to, an activity of a polypeptide of the present invention, including mature forms, as measured in a particular biological assay, with or without dose dependency. In the case where dose dependency does exist, it need not be identical to that of the polypeptide, but rather substantially similar to the dose-dependence in a given activity as compared to the polypeptide of the present invention (i.e., the candidate polypeptide will exhibit greater activity or not more than about 25-fold less and, preferably, not more than about tenfold less activity, and most preferably, not more than about three-fold less activity relative to the polypeptide of the present invention).

[0039] Table 1 summarizes some of the polynucleotides encompassed by the invention (including contig sequences (SEQ ID NO:X) and clones (Clone ID NO:Z) and further summarizes certain characteristics of these polynucleotides and the polypeptides encoded thereby.

Polynucleotides and Polypeptides

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| OMIM | Reference(s): | | | | | | | | | | | | | | | | | • | | | | | | | |
| Cytologic Rand | Dana | | | - | | | | | | | | | | | • | <u></u> | | | | | | | | - | |
| Tissue Distribution | Library code: count (see Table IV for Library Codes) | H0428: 2 | L0744: 5, L0758: 5, | L0766: 4, L0803: 4, | L0439: 4, L0759: 4, | H0657: 3, H0341: 3, | L0794: 3, H0648: 3, | L0747: 3, L0752: 3, | S0422: 2, L0598: 2, | L0770: 2, L0809: 2, | H0696: 2, L0742: 2, | L0755: 2, H0716: 1, | S0116: 1, H0638: 1, | S0444: 1, S0360: 1, | H0637: 1, H0580: 1, | S0007: 1, L0586: 1, | H0156: 1, H0599: 1, | L0022: 1, H0042: 1, | H0318: 1, H0327: 1, | H0328: 1, H0615: 1, | L0483: 1, S0112: 1, | T0042: 1, H0560: 1, | H0625: 1, L0769: 1, | L0800: 1, L0764: 1, | L0804: 1, L0375: 1, |
| Predicted Epitopes | | | His-1 to Gly-19, | Gly-29 to Tyr-35. | | | | | | | | | | | | | | | | | | | | | , |
| AA | SEQ US | 2186 | 2187 | | | | | | _ | | | | | | -1. | | | | | | | | | | |
| ORF | (From-To) | 158 - 328 | 3 - 107 | | | | | | | | | | | | | | | | | | | | | | |
| SEQ | NO: X | 11 | 12 | | | | | | | | | | | | | | | | | | | | | | |
| Contig ID: | | 702302 | 498281 | | • | | | - | | | | | | | | | | | | | • | | | | |
| Clone ID | NO: Z | 1101/10134 | HEBGD58 | ייייייייייייייייייייייייייייייייייייייי | | | | | | | | | | | | | | | | | | | | | |

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| | 7q31.2- q31.3 |
| pı | • |
| <u> </u> | Glu-29 to Lys-37, Lys-110 to Ile-118, L0471: 6, S0003: 6, Arg-126 to Cys-135,H0547: 6, L0439: 6, Lys-157 to Gly-163, L0740: 6, H0046: 5, Glu-269 to Thr-278. H0494: 4, L0766: 4, H0521: 4, L0758: 4, L0775: 4, L0666: 4, H0521: 4, L0754: 4, L0588: 4, L0600: 4, H0575: 3, H0529: 3, H0575: 3, H0696: 3, H0575: 3, R0591: 3, H0575: 3, R0576: 2, R0376: 2, R0376: 2, R0376: 2, R0376: 2, R0378: 2, |
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| H0156: 2, H0036: 2, | H0266: 2, H0179: 2, | H0328: 2, H0615: 2, | H0039: 2, H0622: 2, | H0031: 2, H0090: 2, | H0412: 2, H0623: 2, | H0560: 2, H0625: 2, | S0422: 2, L0770: 2, | L0662: 2, L0768: 2, | L0649: 2, L0803: 2, | H0684: 2, S0152: 2, | S0028: 2, S0206: 2, | L0752: 2, L0757: 2, | L0759: 2, S0031: 2, | S0434: 2, L0362: 2, | S0026: 2, S0196: 2, | H0170: 1, H0556: 1, | S0342: 1, S0134: 1, | S0212: 1, H0661: 1, | S0418: 1, S0420: 1, | S0354: 1, S0358: 1, | S0444: 1, H0580: 1, | S0045: 1, S0132: 1, | H0393: 1, L0717: 1, | S0222: 1, H0614: 1, | H0357: 1, H0587: 1, | H0632: 1, H0270: 1, | T0114: 1, H0250: 1, | S0280: 1, S0474: 1, | H0581: 1, H0374: 1, |
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| H0052: 1, H0232: 1, | H0050: 1, H0024: 1, | 0014: 1, H0373: 1, | H0051: 1, S0051: 1, | 0355: 1, H0375: 1, | H0594: 1, S0214: 1, | 0483: 1, H0553: 1, | H0644: 1, H0032: 1, | 0212: 1, S0036: 1, | 0038: 1, H0264: 1, | H0413: 1, H0056: 1, | 0042: 1, S0466: 1, | H0509: 1, H0207: 1, | 10641: 1, H0647: 1, | S0344: 1, L0638: 1, | .0637: 1, L0794: 1, | .0804: 1, L0805: 1, | L0656: 1, L0635: 1, | .0528: 1, L0664: 1, | .0665: 1, H0520: 1, | H0519: 1, H0593: 1, | H0435: 1, H0659: 1, | H0670: 1, H0672: 1, | H0651: 1, S0328: 1, | 30330: 1, L0602: 1, | H0518: 1, S0176: 1, | H0555: 1, S0390: 1, | J0750: 1, S0260: 1, | H0595: 1, L0599: 1, | L0608: 1, H0668: 1, |
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| | | 6p21.3 |
| H0653: 1, S0192: 1, H0543: 1 and : 1. | AR039: 65, AR096: 37, AR104: 37, AR089: 32, AR053: 27, AR052: 25, AR033: 22, AR060: 21, AR055: 21, AR061: 11 H0556: 1 | 115, |
| | Ser-57 to Gly-65, Gly-80 to His-86. | Thr-8 to Thr-19, Arg-108 to Ser-115, H0509: 32, H0393: Ser-117 to Arg-128, H0574: 15, H0510: Phe-143 to Tyr-155, L0362: 14, L0666: 14, L0666: 14, L0666: 16, L0748: Asn-182 to Gly-187, H0014: 9, S0410: 8, Gly-195 to Ser-200, H0331: 8, H0674: 8, Arg-232 to Thr-248, S0438: 8, L0657: 8, Pro-287 to Arg-293, H0689: 8, H0039: 7, H0669: 7, H0641: 5, S0360: 4, H0046: 4, H0169: 4, H0648: 4, H0169: 4, H0648: 3, L0662: 3, L0664: 3, L0662: 3, L0664: 3, H0682: 3, L075: 3, L075: 3, L0664: 3, H0682: 3, L075: 3, L075: 3, L0664: 3, L077: 3, L0664: 3, |
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| Š | <u>. E</u> | <u> </u> | i <u>. y-</u> | <u> </u> | <u>;</u> | <u> </u> | <u> </u> | <u> </u> | | | | | | | | | | | | | | | | | | | Ser-13 to Asp-18. |
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| T0109: 1, H0428: 1, H0264: 1, L0764: 1, L0665: 1 and H0648: 1. | H0428: 2, L0757: 2, H0170: 1, S0007: 1, H0028: 1, S0250: 1, H0252: 1, H0328: 1, H0124: 1, H0551: 1, L0439: 1 and L0750: 1. | AR089: 5, AR096: 4, AR060: 3, AR104: 3, AR061: 2, AR055: 2, AR033: 1, AR053: 1, AR039: 0 H0615: 2, H0346: 1, S0045: 1, H0156: 1, H0659: 1, L0748: 1 and H0444: 1. | H0415: 3 | S3012: 1 | H0521: 4, H0415: 1 |
| | Arg-13 to Ala-20, Pro-27 to Arg-32, Lys-37 to Glu-62. H | Pro-105 to Trp-117. AR089: AR060: AR061: AR033: AR039: H0615 S0045: H0659: | | Gly-1 to Ala-9, Pro-42 to Ser-56, Leu-60 to Gly-67, Ala-86 to Asp-95. | Pro-14 to Ser-19, |
| | 2192 | 2193 | 2194 | 2195 | 2196 |
| | 3 - 515 | 623 - 1018 | 99 - 347 | 357 - 641 | 1 - 720 |
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| and H0522: 1. | | | | | | L0747: 15, L0742: 12, | L0748: 12, L0752: 12, | L0757: 9, L0731: 8, | L0754: 7, S0144: 6, | L0755: 6, S0356: 5, | S0406: 5, L0740: 5, | H0046: 4, L0764: 4, | H0543: 4, H0250: 3, | H0040: 3, L0761: 3, | L0646: 3, L0774: 3, | L0806: 3, L0751: 3, | L0745: 3, L0753: 3, | L0759: 3, S0212: 2, | H0661: 2, S0360: 2, | S0280: 2, H0014: 2, | H0039: 2, S0036: 2, | H0163: 2, L0768: 2, | L0775: 2, L0776: 2, | L0379: 2, L0783: 2, | L0809: 2, H0702: 2, | S0126: 2, H0689: 2, | H0658: 2, H0672: 2, | L0439: 2, L0750: 2, |
| | Asp-93 to Ser-98, Thr-138 to Tyr-144, | Asn-155 to Phe-163, | Arg-168 to Ser-175, | Gln-205 to Lys-210, | Phe-226 to Thr-233. | Asn-18 to Arg-24, | Arg-30 to Tyr-35, | Glu-43 to Asp-51. | Glu-56 to Glv-66. | 7 | Ala-156 to His-171. | | | | | | | | | | | | | | | | | |
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| .0756: 2. L0758: 2. | J0605: 2, L0590: 2, | 1: 2, H0171: 1, | H0556: 1, T0002: 1, | S0040: 1, S0134: 1, | 30218: 1, H0657: 1, | H0341: 1, H0484: 1, | H0306: 1, H0305: 1, | H0125: 1, S0442: 1, | 8: 1, S0132: 1, | H0351: 1, H0586: 1, | 4: 1, H0486: 1, | H0013: 1, H0635: 1, | 5: 1, H0318: 1, | H0052: 1, H0597: 1, | 10041: 1, H0050: 1, | 3: 1, S0388: 1, | 30051: 1, H0356: 1, | 10266: 1, H0687: 1, | S0312: 1, S0003: 1, | 40252: 1, T0006: 1, | 2: 1, H0313: 1, | .0055: 1, H0032: 1, | 9: 1, H0038: 1, | 70041: 1, S0306: 1, | S0438: 1, H0130: 1, | 10641: 1, H0647: 1, | 30344: 1, S0210: 1, | .0763: 1, L.0770: 1, | .0769: 1, L0372: 1, |
| 1.075 | 1060 | S001 | H055 | S004 | S021 | H034 | H03(| H012 | S035 | H035 | H057 | H001 | H057 | H005 | H004 | L016 | 2005 | H026 | S031 | H025 | <u>L01</u> | 1005 | H016 | T004 | S043 | H064 | S034 | L076 | 1.076 |
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| .199 | 360: 2 | 333: | 309: | 123: | 032: | 142: | 776: (| L0529: 2, | 999 | 664: | 750: | 757: 3 | L0588: 2, | 114: | 134: | 358: | 3339: | 140: 1 | 300: 1 | 41: | 643: | 021: | 618: | 011: | 327: | 546: | 600 | 020: | 024: |
| 2, H0 | 2, SQ | 2, H(| 2, H(| 2, H(| 2, H(| 2, S0 | 2, L0 | 2, L0 | 2,10 | 2,10 | 2, L0 | 2,10 | 2, LO | 2, S0 | 1, 50 | 1, S0 | 1, H(| 1, S0 | 1, S0 | 1, H0 | 1, H(| 1,10 | 1, HC | 1, N | 1, H0 | 1, H(| 1, HC | 1, H(| 1, H |
| .0785: 2, H0661: 2, | S0376: 2, S0360: 2, | H0637: 2, H0333: 2, | H0486: 2, H0309 | H0545: 2, H0123: 2, | H0594: 2, H0032: 2, | H0169: 2, S0142: 2, | J0767: 2, L0776: 2, | .0655: 2, | 3530: | L0663: 2, L0664: 2, | 0682: | JO753: 2, L0757: 2, | .0759: 2, I | .0361: 2, S0114: 1, | 1, 20134: 1, 30134: 1, | H0254: 1, S0358: | H0580: 1, H0339: 1, | S0046: 1, S0140: 1, | S6026: 1, S0300: 1, | S6022: 1, H0441: | H0455: 1, H0643: | 70060: 1, L0021: | H0042: 1, H0618: 1, | H0253: 1, N0011: 1, | S0049: 1, H0327: | H0530: 1, H0546: 1 | H0086: 1, H0009: | H0081: 1, H0050: 1, | H0620: 1, H0024: |
| Ħ | Š | 王 | 王 | 王 | 耳 | 王 | Ä | ĭ | <u> </u> | <u> </u> | Ï | ĭ | ĭ | <u> </u> | Ē | 工 | 耳 | Š | <u> </u> | <u>×</u> | 耳 | Ĕ | 王 | H | <u>X</u> | 王 | Ξ | Ē | Ξ |
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| H0057: 1, H0373: 1, | S0051: 1, H0071: 1, | H0687: 1, S0003: 1, | S0214: 1, H0417: 1, | H0031: 1, H0553: 1, | H0111: 1, H0181: 1, | H0606: 1, H0038: 1, | H0616: 1, H0063: 1, | H0087: 1, H0412: 1, | H0059: 1, T0069: 1, | T0004: 1, L0564: 1, | S0440: 1, S0144: 1, | | • | L0770: 1, L0667: 1, | L0764; 1, L0765: 1, | Ť | L0375: 1, L0376: 1, | L0378: 1, L0806: 1, | L0658: 1, L0659: 1, | L0518: 1, L0783: 1, | L0788: 1, S0053: 1, | H0691: 1, H0519: 1, | S0126: 1, H0689: 1, | H0660: 1, S0330: 1, | H0696: 1, S0404: 1, | H0576: 1, S3014: 1, | S0206: 1, L0742: 1, | L0743: 1, L0749: 1, |
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| · | 120260, 120950, 120960, 138140, 178300, 178300, 246450, 600101, 600650, 600650, 600722, | | | 141750, | 141800, | 141800, | 141800, | 141800, | 141850, | 141850, | 141850, | 141850, |
|---|--|---|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 1p33-p32 | | 2 | 16p13.3 | | | | | | | - | |
| L0752: 1, H0445: 1, L0589: 1, L0592: 1, L0608: 1, H0422: 1, H0008: 1 and H0293: 1. | AR089: 7, AR060: 6, AR096: 5, AR104: 3, AR055: 3, AR061: 2 L0746: 2, H0592: 1, H0087: 1, L4501: 1, L0665: 1 and L0758: 1. | T0115: 1, L0662: 1, L0766: 1, L0659: 1, L0809: 1, L0748: 1 and H0444: 1. | | | | | | | | | | |
| | lle-1 to Thr-10, Pro-66 to Gly-77, Asp-85 to Gly-116. | | Gly-13 to Val-36. | | - | | | | | | | |
| | 2199 | 2200 | 2201 | 2202 | | | | | | | | |
| | 3 - 515 | 2-211 | 402 - 590 | 2 - 721 | | | | | - | | | |
| | 24 | 25 | 26 | 27 | | | | | | | | |
| | 704405 | 705692 | 711500 | 732342 | | | | | | | | |
| | HTSGU37 | H2LAN34 | HPMBZ40 | HLYEP52 | | | | | | | | |

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| 141850, 156850, | 186580, | 191092, | 600140, | 6002/3, | 601313, 601785 | | | | | | 106300, 108800. | 120290, | 120810, | 120820, | 142857, | 142858, | 1502/0, | 16/220, | 170261, | 177900, | 179450, | 201910, | 41 /000, |
| | | | | | | | | | | | 6p21.3 | | | | | | | | | | - | | |
| | | | | | | AR096: 3, AR053: 2, | 2, AR062. | 1, AR104: | AR039: 0 | L0766: 2, S0354: 1, H0135: 1 and H0040: 1. | | | _, | | , | | | | | | | | |
| | | | | | | | | | | | Arg-6 to Leu-12, | 1 yr-18 to Asp-25. | | | | - | | | | | , | | |
| | | | | | | 2203 | _ | | | | 2204 | | | | | | | | | | | | |
| | | | - | | | 329 - 433 | | | | | 113 - 391 | · · · · · · · · · · · · · · · · · · · | | | | | | | | | | | |
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| | | | | | | 745343 | | | | | 746416 | | | | | | | | | | | | |
| | | | | | | HTTEC47 | | | | | HOFMO90 | | | | | | | | | | | | |

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| 222100, 233100, 235200, 248611, 256550, 256550, 600202, 601868, 602280, 602280, | 113721, | 600059, | 601545 | | | 106165, | 110100, | 11/00 | 150210 | 169600 | 180380 | 180380, | 180380 | 203500, | 276902, | 601199 |
| | 17p13.3 | | | | • | 3q23 | • | - | | | | | • | | - | |
| · | AR055: 937, AR033: 824 AR061: 791 | AR104: 733, AR060: | 647, AR053: 378, | AR089: 278, AR039. | 203, AR096: 149 H0484 1 | L0740: 2, S0356: 1, | H0040: 1, H0616: 1 and | 110000. 1. | | | | | | | | |
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| · | 2205 | | | | | 2206 | | | | _ | | | | | | |
| | 99 - 164 | | | | | 388 - 609 | | | | | | | | | | |
| | 30 | | | | | 31 | | | | | | | | | | |
| · | 762806 | | | | | 785328 | | | | | | | | | | |
| | HCHND34 | | | | | HAMGI86 | | | | | | | | | • | |

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| 601199, 601199, 601683 | 00100 | | | | | | | | | | | : | | | | | | | | | | | | | | | |
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| | 1.0766: 7. 1.0794: 6. | L0758: 6, L0665: 4, | L0439: 4, L0779: 4, | H0590: 3, H0328: 3, | L0598: 3, L0763: 3, | L0666: 3, H0648: 3, | L0754: 3, L0362: 3, | H0506: 3, H0657: 2, | H0661: 2, S0438: 2, | L0646: 2, L0803: 2, | L0375: 2, L0806: 2, | L0809; 2, L0438; 2, | L0744: 2, L0740: 2, | L0747: 2, L0756: 2, | L0731: 2, S0434: 2, | L0589; 2, H0713: 1, | S0114: 1, H0583: 1, | H0255: 1, H0669: 1, | H0663: 1, S0222: 1, | H0497: 1, L0021: 1, | L0022: 1, H0036: 1, | H0052: 1, L0163: 1, | H0239: 1, H0179: 1, | H0615: 1, H0092: 1, | H0553: 1, H0163: 1, | H0038: 1, H0100: 1, | S0440: 1, S0422: 1, |
| | Tyr-1 to Tm-9 | Thr-44 to Leu-49. | | | | | | | | | | | - | | | | | | | | | | | | | | |
| | 2207 | 1044 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 226 601 | 320 - 020 | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | 12 | | - |
| S0426: 1, UNKWN: 1, L5575: 1, L0644: 1, L0764: 1, L0651: 1, L0653: 1, L0653: 1, L0657: 1, L0657: 1, L0783: 1, L0783: 1, L0664: 1, S0374: 1, H0682: 1, H0658: 1, S0454: 1, S0466: 1, S0454: 1, L0750: | H0415: 3 and H0414: | H0124: 1 | AR052: 3, AR089: 2, AR039: 2, AR055: 2, AR033: 2, AR053: 2, AR060: 2, AR096: 1, AR061: 1, AR104: 1 H0651: 8, L0744: 7, L0748: 6, H0620: 4, S0360: 3, S0142: 3, L0755: 3, H0638: 2, H0052: 2, H0123: 2, |
| | | Lys-1 to Trp-7, Pro-29 to His-41, Thr-48 to Arg-65. | 85, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, |
| | 2208 | 2209 | 2210 |
| | 866 - 3 | 630 - 824 | 2 - 1924 |
| | 33 | 34 | 35 |
| | 806819 | 824886 | 828176 |
| | HOFAC09 | HRDEL61 | HDPOR60 |

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| His-336 to Leu-341, H0083: 2, H0328: 2, Pro-380 to Phe-387. H0615: 2, H0039: 2, | Gin-405 to Asp-410, H0424: 2, H0163: 2, | 1 nr-361 to Asp-373, rround 2, 110037, 2, 1.0659; 2, 1.0659; 2, 1.0519; 2, | L0438: 2, S0378: 2, | S3012: 2, S3014: 2, | L0743: 2, L0750: 2, | L0758: 2, L0589: 2, | H0656: 1, H0662: 1, | S0420: 1, S0358: 1, | S0408: 1, H0637: 1, | S0222: 1, H0574: 1, | S0280: 1, L0021: 1, | H0544: 1, H0546: 1, | H0545: 1, H0081: 1, | H0012: 1, H0266: 1, | H0188: 1, H0687: 1, | H0288: 1, H0292: 1, | H0252: 1, H0673: 1, | H0100: 1, H0641: 1, | S0144: 1, S0002: 1, | . L0761: 1, L0643: 1, | L0662: 1, L0650: 1, | L0774: 1, L0375: 1, | L0805: 1, L0776: 1, | L0783: 1, L0793: 1, | L0665: 1, S0053: 1, | H0520: 1, H0658: 1, | H0672: 1, H0522: 1, |
| His-33 | Gln-40 | 0C-JUT | | | - | | | | | | | | | | | - | | | | | | | | | | | |
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| | | 164731, 172400, 172400, 180901, 180901, 221770, 248600, 600918, | 148370, 238600, 238600, 238600, 238600, 600143, 601385, 602629 |
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| | | 19q13.1 | 8p22-p21.3 |
| S0406: 1, H0436: 1, S0037: 1, L0747: 1, L0749: 1, L0779: 1, L0731: 1, S0031: 1 and S0434: 1. | Pro-117 to Lys-134, L0748: 3, H0486: 2, Gln-136 to Trp-143. L0599: 2, S0212: 1, S0358: 1, H0596: 1, H0032: 1, H0212: 1, S0002: 1, L0769: 1, L0775: 1, L075: 1, L0519: | S0250: 2, H0435: 2, S0152: 1 and L0745: 1. | L0741: 3, H0069: 1, S0250: 1, H0032: 1, H0212: 1, L0774: 1, H0522: 1 and L0756: 1. |
| | Pro-117 to Lys-134, Gln-136 to Trp-143. | Pro-1 to Pro-9, Arg-81 to Glu-87, Gln-114 to Glu-119. | Gly-17 to Leu-40, Ala-47 to Phe-63, Glu-66 to Val-71, Ile-75 to His-92, Glu-112 to Asn-119, Asp-122 to Arg-135, Asn-140 to Phe-152, Asn-160 to Arg-166. |
| | 2211 | 2212 | 2213 |
| | 3 - 458 | 1 - 417 | 295 - 879 |
| | 36 | 37 | 38 |
| · | 828574 | 828862 | 828872 |
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| 1 | ARU60: 4, ARU52: 5, AR053: 3, AR055: 3, | H0617: 11, L0748: 5, | L0731: 4, H0181: 3, | L0775: 3, H0670: 3, | L0749: 3, H0656: 2, | H0550: 2, H0083: 2, | H0087: 2, H0658: 2, | H0539; 2, L0747: 2, | L0750: 2, H0341: 1, | H0661: 1, H0402: 1, | S0418: 1, S0360: 1, | S0045: 1, H0393: 1, | H0587: 1, H0333: 1, | H0544: 1, H0009: 1, | H0510: 1, H0688: 1, | H0644: 1, H0606: 1, | H0708: 1, S0366: 1, | H0131: 1, L0770: 1, | L0540: 1, L0783: 1, | L0809: 1, L0789: 1, | L0666: 1, L0665: 1, | H0689: 1, H0682: 1, | H0672: 1, L0743: 1, | L0779: 1, L0759: 1, | S0434: 1 and S0460: 1. | L0766: 7, L0731: 5, |
| Phe-4 to Gln-10. | | | | | | | | | | | | | | | | | | | | | | | | | | Arg-13 to Trp-31, |
| 2214 | | | | | | | | | | | | | | | | | | | | | | | | | | 2215 |
| 2 - 694 | | | | | | | | | | | | | | | | | | | | | | | | | | 2 - 418 |
| 39 | | | | | _ | | | | | | | | | | | | | | | | | | | | | 40 |
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| 194: 3, | 50: 3, | 57:3, | 386: 2, | 557: 2, | 58: 2, | S0046: 2, | 69: 2, | 74: 2, | 26: 2, | 90: 2, | 585: 1, | 562: 1, | 76: 1, | 80: 1, | 09: 1, | 98: 1, | S0182: 1, | H0014: 1, | H0413: 1, | H0625: 1, | 50: 1, | H0633: 1, | L0764: 1, | L0662: 1, | L0806: 1, | L0517: 1, | L0383: 1, | L0519: 1, | 59: 1, |
| 5, H0 | 3, L07 | 3, L07 | 3, H06 | 2, H06 | 2, S03 | 2, S00 | 2, H01 | .0763: 2, L0774: 2, | 2, S01 | 2, 1.05 | 2, H0 | 1, HO | 1, S03 | 1, H05 | 1, T0109: | 1, HO | • | 7 | 7 | | 1, S0150: | 1, | • | | • | • | Ä | 1, LOS | 1, H06 |
| H0542: 5, H0494: 3 | .0526: 3, L0750: 3, | L0752: 3, L0757: 3, | L0588: 3, H0686: 2, | 0049: 2, H0657: 2, | H0341: 2, S0358: 2, | T0008: 2, | .0471: 2, H0169: 2, | .0763: | H0519: 2, S0126: 2, | 30027: 2, L0590: 2 | H0423: 2, H0685: | H0650: 1, H0662: 1 | H0504: 1, S0376: | S0360: 1, H0580: 1 | H0431: 1 | H0069: 1, H0098: 1 | Γ0048: 1 | H0023: | 10617: | H0129: 1 | H0132: | H0130: | L0520: 1 | .0648: 1 | .0775: 1 | .0379: 1 | .0540: | .0809: | H0520: 1, H0659: |
| | | | | C | . # | | | | | <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u>U)</u> | . 11 | <u> </u> | _ | | <u>, +4</u> | <u>, 114</u> | <u> </u> | <u>, 14.</u> | | ㅂ | <u> </u> | <u></u> | Н | -⊢- | |
| o Asn- | o Arg- | to Asp- | to Asp | | | | | | | | | | | | | | | | | | | | | | | | | ٠ | |
| Val-61 to Asn-67, | Lys-87 to Arg-92, | Leu-97 to Asp-109, | Ser-129 to Asp-139. | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | 180297, 230450, 263200, 601690 | | | | _ | | | | | | | 118210, | 120570, | 1203/0, | 1205/5, | 121800, |
|--|---|--|---------------------|--|---|---------------------|---------------------|---|---------------------|---------------------|---|-------------------------------------|-----------------------------|-------------------|---------|---------|---------|
| | | 6p12 11 | | | | | | | | | | | | | _ | | |
| H0658: 1, H0666: 1, S0328: 1, S0380: 1, S0032: 1, L0779: 1, L0758: 1, L0759: 1 and H0445: 1. | i | H0581: 1 and H0521: 1. | | H0124: 8, H0550: 5, H0428: 3, H0586: 2, | H0575: 2, H0555: 2, | H0294: 1, S0282: 1, | H0427: 1, H0196: 1, | Gly-156 to Lys-162, H0052: 1, H0194: 1, | H0086: 1, H0123: 1, | H0509: 1, H0684: 1, | L0748: 1, L0747: 1, | L0756: 1, S0192: 1 and H0506: 1. | S0358: 1, S0376: 1 and 1p36 | H0413: 1. | | | |
| | Ala-96 to Lys-111, Cys-117 to Cys-128. | Ser-2 to Arg-14, Ala-37 to Lys-45, Glu-60 to Leu-68, His-75 to Glu-82, Arg-92 to Ser-99, Gly-105 to Glu-110. | Arg-119 to Phe-125. | Thr-1 to Leu-9, | Glu-117 to Lys-124, H0575: 2, H0555: 2, | Pro-129 to Asp-135, | Ala-144 to Gln-150, | Gly-156 to Lys-162, | Phe-182 to Pro-187, | Pro-196 to Gln-201, | [Lys-217 to Asp-227. L0748: 1, L0747: 1 | | Tyr-34 to His-42, | Leu-44 to Leu-49: | | | |
| | 2216 | 2217 | | 2218 | | | | | | | | | 2219 | | | | |
| | 2 - 391 | 80 - 631 | | 2 - 1531 | | | | | | | | | 1 - 315 | | | | |
| | 41 | 42 | | 43 | | | | | | | | | 4 | | | | |
| | 829981 | 830195 | | 830497 | | | | | | | | | 831453 | | | | |
| | HTTIQ02 | HWACG91 | | HUFBX52 | | | | | | | | | HWLJE49 | | | | |

| 130500, 133200, 155600, 171760, 171760, 185470, 211420, 230350, 201990, 601990, | | 102200, | 106100, | 131100, | 131100, | 131100, | 133780, | 147050, | 153700, | 161015, | 164009, | 168461, | 168461, | 168461, | 180721, | 180840, | 191181, | 193235, |
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| | | 11q13 | | | | | | | | | | |) | | | | - | |
| | | Gln-102 to Arg-109, AR061: 141, AR104: | 122, AR055: 119, | Pro-315 to Asn-323, AR060: 115, AR052: | Ser-361 to Cys-369, 82, AR033: 78, AR039: | Ala-381 to Ser-391, 72, AR089: 67, AR053: | 38, AR096: 32 | L0759: 4, H0617: 3, | L0749: 3, L0779: 3, | H0253: 2, H0188: 2, | H0165: 2, L0769: 2, | L0637: 2, L0761: 2, | L0665: 2, S0374: 2, | H0682: 2, H0659: 2, | L0748: 2, H0171: 1, | H0685: 1, H0341: 1, | H0255: 1, S0420: 1, | H0586: 1, H0599: 1, |
| | Ala-23 to Asp-41. | Gln-102 to Arg-109, | Gly-177 to Pro-183, [122, AR055: 119, | Pro-315 to Asn-323, | Ser-361 to Cys-369, | Ala-381 to Ser-391, | Ser-419 to Ser-428. | | • | | | | | | | | | |
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| 209901, 232600, 259700, 259770, 600045, 600319, 600528, 601884 | | 116860, 129900, 233700, 600079 | |
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| H0510: 1, S6028: 1, H0428: 1, H0424: 1, H0102: 1, H0494: 1, H0560: 1, L0770: 1, L0659: 1, L0774: 1, L0578: 1, L0526: 1, L0787: 1, L0666: 1, L0787: 1, L0666: 1, H0658: 1, S0152: 1, S0028: 1, L0439: 1, L0745: 1, L0755: 1, | H0483: 1, S0045: 1, S0046: 1, H0486: 1, H0012: 1, H0355: 1, S0364: 1, H0087: 1, H0413: 1, H0366: 1, S0028: 1, L0601: 1 and H0352: 1. | H0486: 1, H0123: 1 and L0756: 1. | L0757: 6, L0752: 5, L0439: 4, S0150: 2, L0774: 2, S3014: 2, L0747: 2, L0750: 2, S0276: 2, S0212: 1, S0007: 1, H0574: 1, |
| | Arg-8 to Gln-19, Arg-25 to Lys-38. | Arg-2 to Pro-12, Lys-32 to Asn-37, His-75 to Asn-82. | |
| | 2222 | 2223 | 2224 |
| · | 148 - 480 | 36 - 353 | 320 - 1096 |
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| | | | | 19p13.3 |
| H0581: 1, H0068: 1, S0036: 1, H0135: 1, T0067: 1, L0065: 1, H0529: 1, H0026: 1, L0762: 1, L0773: 1, L0521: 1, L0766: 1, S0052: 1, H0521: 1, L0748: 1, L0749: 1, L0731: 1, L0759: 1, H0542: 1, | AR089: 3, AR060: 2, AR053: 2, AR096: 2, AR061: 2, AR039: 1, AR033: 1, AR055: 0, AR104: 0 H0615: 1 | S0358: 1, H0052: 1, H0375: 1, H0087: 1, H0380: 1, H0435: 1, H0521: 1, S0390: 1 and L0366: 1. | S0114: 2, H0686: 1, L0769: 1, L0644: 1, L0662: 1, L0774: 1, L0666: 1, H0659: 1, L0750: 1 and S0436: 1. | AR096: 2, AR089: 2, AR061: 1, AR039: 0, AR060: 0, AR055: 0, |
| | Asp-1 to Glu-6. | | Ser-90 to His-96, Arg-127 to Gln-132.I | Glu-14 to Gly-23. A |
| · | 2225 | 2226 | 2227 | 2228 |
| | 1013 - 951 | 2 - 244 | 2 - 397 | 707 - 817 |
| | 50 | 51 | 52 | 53 |
| | 843485 | 844534 | 847355 | 847647 |
| | HODFG71 | HCE3165 | HSAVH65 | HBXFT41 |

| 136836, 145981, 147141, 164953, 188070, 600957, 601238, 601238, 602216, | | | | | | | | _ | |
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| AR033: 0, AR104: 0 L0717: 1, H0438: 1, H0090: 1 and L0749: 1. | L0717: 1 and H0421: | L0776: 5, L0439: 4, L0805: 3, H0009: 2, L0438: 2, H0580: 1, | 10674: 1, L0774: 1, | L0384: 1, L0747: 1, L0786: 1, L0780: 1, | L0/52: 1, L0/53: 1, S0031: 1, L0608: 1, S0412: 1 and L0698: 1. | H0328: 2 and H0509: 1. | 2, AR039: 1, AR053: | ARIO4: 1, AROOS: 1, ARO61: 0, AR055: 0, | AR033: 0 H0252: 1 |
| A H | | Arg-19 to Pro-25. | <u>0, 14</u> | <u> </u> | | | Asp-23 to Asn-30. | | |
| | 2229 | 2230 | | | | 2231 | 2232 | | |
| | 373 - 290 | 3 - 86 | | | | 276 - 338 | 628 - 735 | | |
| | 52 | 55 | | | | 56 | 57 | | |
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| AR089: 8, AR060: 7, | AR104: 5, AR096: 4, | | H0659: 5, L0740: 5, | L0662: 4, L0771: 3, | H0547: 3, H0521: 3, | L0759: 3, L0362: 3, | H0013: 2, H0597: 2, | H0046: 2, H0083: 2, | S0214: 2, H0674: 2, | H0494: 2, L0517: 2, | H0682: 2, L0747: 2, | L0779: 2, S0434: 2, | H0685: 1, H0583: 1, | H0661: 1, H0638: 1, | S0420: 1, S0360: 1, | H0580: 1, H0438: 1, | H0497: 1, H0599: 1, | S0010: 1, H0581: 1, | H0545: 1, H0457: 1, | H0563: 1, L0163: 1, | L0055: 1, H0673: 1, | H0212: 1, H0591: 1, | H0038: 1, H0616: 1, | H0488: 1, S0142: 1, | S0344: 1, L0763: 1, | L0770: 1, L0767: 1, | L0766: 1, L0776: 1, | L0659: 1, L0782: 1, | .0545: 1, H0144: 1, |
| Glu-146 to Pro-151, AR089: | Ala-231 to Ser-237, | Asp-317 to Pro-322, | | | | | | | | | | | • | | | | | | | | | | | | <u> </u> | | | | |
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| | 8p23.2- p23.1 |
| H0672: 1, S0152: 1, S0406: 1, H0627: 1, S0390: 1, L0748: 1, L0777: 1, L0758: 1, S0026: 1, H0665: 1 and H0543: 1. | L0748: 7, L0747: 6, L0769: 5, L0731: 4, S0444: 3, H0083: 3, H06412: 3, L0775: 3, H0670: 3, S0380: 3, L0779: 3, L0758: 3, H0392: 2, H0070: 2, S0007: 2, T0048: 2, H0641: 2, L0774: 2, L0655: 2, L0526: 2, H0710: 2, H0659: 2, H0710: 2, H0659: 2, L0615: 1, S0040: 1, H0710: 2, H0659: 1, S0116: 1, H0641: 1, H0295: 1, H0661: 1, H0393: 1, H0411: 1, H0393: 1, H0411: 1, H0318: 1, L0738: 1, |
| | Pro-1 to Met-6, Thr-47 to Asp-54. |
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| | 862481 |
| | HUSJJ59 |

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| H0545: 1, L0471: 1, H0014: 1, T0023: 1, H0181: 1, H0606: 1, H0673: 1, S0366: 1, H0316: 1, H0163: 1, H0087: 1, H0625: 1, S0438: 1, H0625: 1, L0371: 1, L0520: 1, L076: 1, L0520: 1, L076: 1, L0521: 1, L076: 1, L0521: 1, L076: 1, L0609: 1, L078: 1, L0609: 1, L078: 1, L0609: 1, H059: 1, H0648: 1, H060: 1, H0648: 1, H060: 1, R040: 1, S043: 1, S3014: 1, L0740: 1, L0599: 1, L076: 1, L0599: 1, L076: 1, L0599: 1, L076: 1, L0599: 1, L076: 1, L0599: 1, H066: 1, L0599: 1, H066: 1, L075: 1, L076: 1, L0599: 1, H066: 1, L076: 1, | S0424: 1 and H0712: 1. | L0803: 3, H0556: 2, L0769: 2, L0800: 2, H0265: 1, S0134: 1, |
| | | Gln-1 to Ala-6, Arg-18 to His-24, Ala-80 to Val-88, |
| | | 2235 |
| | | 221 - 1090 |
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| | | 863515 |
| | | HSSDM07 |

| Asp-97 to Asp-103, S0358: 1, H0642: 1, Arg-125 to Tyr-132, H0575: 1, H0135: 1, Arg-155 to Leu-161, L0809: 1, L0789: 1, Ser-167 to Asn-172, S0330: 1, L0750: 1 and Gln-182 to Lys-187, L0777: 1. Pro-206 to Thr-212, Glu-218 to Ser-228, | 5, S0114: 2, , H0012: 1, and S0038: | AR089: 6, AR060: 5, AR039: 4, AR096: 4, AR033: 2, AR055: 2, AR104: 1, AR061: 1, AR053: 0 H0435: 2, H0395: 1 and H0402: 1. | L0471: 1, S0051: 1, H0040: 1 and L0747: 1, | LUS11: 11, LU427. C, LU509: 6, LU507: 5, LU500: 5, LU500: 5, LU518: 5, LU518: 4, LU518: 4, LU508: 3, LU508: 3, LU508: 2, LU505: 2, LU505: 2, LU505: 2, LU752: 2, LU572: 2, LU572 |
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| Asp-97 to Asp-103, \$0358: 1, H0642: 1, Arg-125 to Tyr-132, H0575: 1, H0135: 1 Arg-155 to Leu-161, L0809: 1, L0789: 1, Ser-167 to Asn-172, \$0330: 1, L0750: 1 Gln-182 to Lys-187, L0777: 1. Pro-206 to Thr-212, Glu-218 to Ser-228, | Phe-31 to Gln-36, Glu-51 to Ile-79. | Pro-1 to Ser-10, Leu-16 to Gly-21, Thr-43 to Thr-55, Lys-60 to Gly-67. | E | Tyr-1 to Trp-6. |
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| | 104770, | 107300, | 110700, | 131210, | 136132, | 145001, | 146790, | 150292, | 159440, | 159440, | 159440, | 173610, | 186780, | 191030, | 191315, | 208250, | 233710, | 600923, | 600995, | 601412, | 601518, | 601652, | 602491 |
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| | 1q22-q25 | | | | : | <u>-</u> | | | | | ٠ | | | | | | | | | | | - | |
| S0424: 2, H0431: 1, H0150: 1, H0039: 1, H0674: 1, H0087: 1, T0041: 1, L0800: 1, L0768: 1, L0789: 1, L0664: 1 and L0749: 1. | | | | • | : | | | | | | | | | | - | | | | | | | | |
| | Ile-81 to Arg-91. | | | | | | | | | | | | | | | | | | | | | | |
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| 300047, 300071, | 300600, | 301000, | 301830, | 3094/0, | 309610 | 309850, | 311050, | 312060 | | | | | | | | | | | | | | | | | |
| Xp11.23 | | | | | | | | | | | | | | | | | | <u></u> | | | | <u> </u> | | | |
| L0751: 13, L0771: 10, Xp11.23 L0748: 9, L0601: 7, | S0356: 6, L0731: 6, L0758: 6, L0769: 4, | L0565: 4, L0747: 4, I 0756: 4, L0596: 4, | H0598: 3, L0766: 3, | S0052: 3, S0206: 3, | L0750: 3, H0542: 3, | H0294: 2, H0657: 2, | S0358: 2, S03459: 2, | H0586: 2, H0587: 2, | H0575: 2, H0081: 2, | H0620: 2, H0083: 2, | H0271: 2, H0622: 2, | H0617; 2, H0494; 2, | S0142: 2, L0374: 2, | L0521: 2, L0381: 2, | L0775: 2, L0776: 2, | L0659: 2, S0027: 2, | L0777: 2, L0759: 2, | H0445: 2, L0591: 2, | L0604: 2, H0556: 1, | T0002: 1, H0222: 1, | S0040: 1, H0295: 1, | S0218: 1, H0341: 1, | S0180: 1, S0212: 1, | H0484: 1, H0241: 1, | S0420: 1, S0354: 1, |
| Pro-3 to Arg-8, Gly-34 to Thr-53, | Asp-60 to Ser-65, Phe-76 to Lys-81. | | | | | | | | | | | | | | | - | | | | | | | | | |
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| H | S | 7 | <u>) </u> | H | H | <u>)H</u> | <u>8</u> | H | H | H | H | H | 茁 | H | H | H | S | <u>11</u> | 3 | <u>ន</u> | 3 | 2 | 3 | <u>S0</u> | H | H | <u>3</u> | 3 | SO SO |
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| 121014, 121014, 136550, 203310, | 269920, 601666, | 602772 | | | | | | | | | | | | | | | | | | | | | |
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| Thr-5 to Gly-11, Arg-63 to Lys-73, 4 Gln-92 to Glu-98, 2 | Ala-106 to Gly-112. | <u> </u> | | | Glu-26 to Ser-33, | Met-107 to Asn- | 114. | Thr-125 to Glu-131, | His-175 to Asp-180. L0776: 1, L0783: | • | | | - | | | | | | | | | | |
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| S0434: 1, L0596: 1 and | L0362: 1. | AR096: 102, AR055: | 51, AR089, 46, AR060: | 30, AR104: 29, AR061: | 19 | S0406: 23, L0362: 22, | S0410: 13, H0593: 12, | H0674: 10, S0434: 9, | L0764: 8, S0358: 7, | L0646: 7, H0506: 6, | H0509: 5, L0809: 5, | H0435: 5, S0376: 4, | L0765: 4, L0382: 4, | L0751: 4, H0686: 3, | H0252: 3, H0169: 3, | H0670: 3, S0330: 3, | H0656: 2, S0116: 2, | S0132: 2, H0581: 2, | H0596: 2, S0314: 2, | T0023: 2, H0059: 2, | S0440: 2, L0372: 2, | L0381: 2, L0659: 2, | L0666: 2, H0690: 2, | L0750: 2, L0596: 2, | L0601: 2, H0171: 1, | S0430: 1, H0650: 1, | H0663: 1, H0306: 1, | S0360: 1, T0104: 1, | T0071: 1, H0421: 1, |
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| H0251: 1, H0263: 1, H0204: 1, H0231: 1, H0039: 1, H0622: 1, L0194: 1, L0483: 1, S0368: 1, H0040: 1, H0090: 1, H0040: 1, H0488: 1, H0494: 1, L0762: 1, L0800: 1, L0753: 1, L0648: 1, L0775: 1, L0376: 1, L0775: 1, L0376: 1, H0653: 1, L0664: 1, S0053: 1, L0664: 1, H0682: 1, H0648: 1, H0672: 1, S0328: 1, S0152: 1, S0432: 1, S0436: 1 and L0600: 1. | S0212: 1 and S0360: 1. | H0328: 2 S0330: 2, L0748: 2, H0484: 1, T0114: 1 and L0764: 1. |
| H H H W H | Gly-2 to Gly-7, Glu-9 to Gln-16, Cys-24 to Gly-30, Ala-35 to Ala-45, Ala-55 to Ala-60, Cys-79 to Leu-90, Asp-95 to Asp-103. | Glu-29 to Asn-42. Pro-6 to Leu-25, Ser-34 to Arg-53, Pro-71 to Gly-81, |
| | 2246 | 2247 |
| | 2 - 385 | 323 - 487 3 - 440 |
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| · | HWLRF06 | HODDO41 HCHMQ74 |

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| | L0749: 3, S0356: 2, L0766: 2, H0170: 1, H0140: 1, L0770: 1, L0662: 1, L0659: 1, H0682: 1, L0752: 1, L0731: 1, L0758: 1 and | L0745: 6, S0360: 4, S0440: 2, H0341: 1, S0212: 1, L0717: 1, H0574: 1, H0687: 1, H0428: 1, S0422: 1, L0667: 1, L0645: 1, L0662: 1, L0768: 1, L0649: 1, L0518: 1, H0435: 1, S0380: 1, H0518: 1, L0754: 1, L0746: 1, S0424: 1, | L0748: 5, L0764: 4, L0774: 4, L0758: 3, L0662: 2, L0751: 2, L0608: 2, L0760: 1, S0444: 1, H0331: 1, H0263: 1, H0674: 1, L0770: 1, L0649: 1, L0803: 1, L0775: 1, |
| Ser-83 to Glu-94. | | | Lys-1 to Ser-7. |
| | 2249 | 2250 | 2251 |
| | 1 - 504 | 130 - 276 | 65 - 292 |
| | 74 | 75 | 76 |
| | 875682 | 876052 | 876487 |
| | HT3AI55 | HMVBD68 | HOCTA74 |

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| | | | 12p13 | | - |
| 1 1066.1 | LU663: 1, LU663: 1, S0374: 1, L0565: 1, H0648: 1, L0752: 1, L0596: 1, L0361: 1, S0026: 1 and H0506: 1. | L0761: 2, L0800: 1, L0773: 1, L0803: 1 and H0539: 1. | S0356: 1, H0318: 1, H0038: 1 and H0040: 1. | H0208; 1, H0263: 1, H0412: 1 and L0754: 1. | |
| | <u>.</u> | Ala-1 to Thr-8, Ala-15 to Pro-23, Pro-68 to Gly-78, Ser-82 to Gly-93, Gly-118 to Ala-135. | Arg-1 to Arg-7, Gly-72 to Asp-78, Lys-83 to Gln-90. | Met-2 to Leu-12, Ser-16 to Asp-23, Gly-38 to Lys-45. | Lys-44 to His-50, Thr-110 to Pro-116, Lys-178 to Gln-183, Pro-196 to Lys-205, |
| | | 2252 | 2253 | 2254 | 2255 |
| | | 433 - 909 | 3 - 332 | 143 - 478 | 1426 - 203 |
| | | 77 | 78 | 79 | 80 |
| | | 876686 | 876696 | 877310 | 879484 |
| | | HISET05 | HCRQM22 | HLHTC92 | H2CAA49 |

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| | | .0764: 1, L0768: 1, .0806: 1, L0663: 1, .0664: 1, H0520: 1, |
| Arg-214 to Thr-220, Asp-295 to Leu-301, Pro-316 to Glu-324, Glu-331 to Tyr-336, Gly-347 to Val-354. | Lys-84 to Gly-98, AR052: Ser-208 to His-218, AR055: Tyr-233 to Asp-243, AR053: Arg-288 to Pro-295, AR039: Gly-303 to Ser-314. H0046 Cly-303 to Ser-314. H0046 L0777: S0005: S0040: S0218: S0418: H0549: H0549: H0549: H0231: H0063: | |
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| H0539: 1, S0390: 1, S0028: 1, L0747: 1, L0758: 1 and S0424: 1 AR089: 2, AR096: 3 | AR060: 1, AR059: AR061: 0, AR033: (AR104: 0 H0415: 2 | AR039: 105, AR096: 91, AR089: 70, AR104: 48, AR033: 48, AR053: 46, AR060: 43, AR055: 18, AR061: 16 S0444: 5, H0436: 5, L0521: 3, H0684: 3, H0659: 3, L0758: 3, S0440: 2, H0250: 2, S0049: 2, L0471: 2, H0266: 2, H0625: 2, H0690: 2, L0747: 2, L0779: 2, S0026: 2, H06422: 2, H0170: 1, H0686: 1, S0040: 1, S0342: 1, H0294: 1, H0638: 1, S0040: 1, S0342: 1, H0556: 1, H0638: 1, S0007: 1, H0638: 1, S0007: 1, H0638: 1, H0427: 1, |
| Asn-40 to Val-45. | Į. | |
| 2257 | | 2258 |
| 5 - 502 | | 2162 - 2383 |
| 8 | 3 | 83 |
| 237000 | 004788 | 882787 |
| | HOFMO23 | HNTNP58 |

| | 108985, 186921, 602092 | |
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| | 11p15 | - |
| H0421: 1, L0738: 1, H0545: 1, H06421: 1, H0628: 1, H0321: 1, H0412: 1, T0069: 1, H0412: 1, T0069: 1, L0769: 1, L0769: 1, L0769: 1, L0764: 1, L0769: 1, L0764: 1, L0657: 1, L0764: 1, L0665: 1, H0698: 1, H0699: 1, H0648: 1, H0648: 1, H0660: 1, H0660: 1, H0666: 1, H0648: 1, H0660: 1, H0660: 1, H0648: 1, H0668: 1, H0668 | AR033: 6, AR089: 6, AR039: 6, AR060: 5, AR104: 4, AR096: 4, AR033: 3, AR055: 3, AR061: 2 H0415: 1 | H0729: 1, H0392: 1, H0013: 1, H0318: 1, H0009: 1, H0328: 1, |
| | | Ser-8 to Cys-14, Trp-34 to Phe-45. |
| | 2259 | 2260 |
| , | 3 - 479 | 2612 - 2478 |
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| H0615: 1, T0041: 1, L0662: 1, L0768: 1, L0522: 1, H0436: 1, H0444: 1 and S0308: 1 | | AR033: 8, AR104: AR089: 3, AR039: AR060: 2, AR061: AR055: 0 H0539: 9, H0052: 5, L0769: 3, L0439: 4, L0769: 3, L0443: 2, L0770: 2, L5574: 2, L0770: 2, L5574: 2, L0770: 2, L5574: 2, L0770: 2, L0664: 2, L0770: 2, L0664: 2, L0770: 2, L0751: 2, L0747: 2, S0436: 2, H0542: 2, H0717: 1, S0010: 1, H0744: 1, H0562: 1, H0012: 1, S0388: 1, H0510: 1, H0418: 1, H0510: 1, |
| <u> </u> | Arg-1 to Asn-14, Lys-47 to Glu-53, Ser-59 to Ser-70, Gln-82 to Gly-93, Glu-100 to Glu-105, Gly-123 to Ser-129, Phe-164 to Lys-173. | <u> </u> |
| | 2261 | 2262 |
| | 2 - 553 | 3 - 341 |
| | 98 | 87 |
| | 891139 | 894855 |
| | HE2RG21 | HHENW77 |

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| L0762: 1, L0631: 1, L0638: 1, L5565: 1, L0764: 1, L0794: 1, L0649: 1, L0774: 1, L0806: 1, L0655: 1, L0659: 1, L0635: 1, L0382: 1, L0788: 1, L0666: 1, H0520: 1, H0660: 1, H0648: 1, H0696: 1, L0742: 1, L0750: 1, L0780: 1, L0750: 1, L0780: 1, H0543: 1, H0445: 1, H0543: 1, H0423: 1 and | H0415: 2 L0804: 3, L0805: 4, L0804: 3, L0805: 3, L0766: 2, L0779: 2, S0114: 1, H0341: 1, H0662: 1, S0222: 1, H0581: 1, H0615: 1, H0581: 1, L0521: 1, L0800: 1, L0521: 1, L0794: 1, L0774: 1, L0806: 1, L0526: 1, L0799: 1, L0790: 1, L0799: 1, L0790: 1, L0799: 1, L0790: 1, |
| · . | Phe-58 to Ala-63. H0415 Ser-50 to Thr-57, L0803. Pro-89 to Arg-96, L0804. Thr-128 to Glu-137, L0766. Cys-150 to Asp-155, S0114. Arg-176 to Lys-184, H0662. Glu-186 to Cys-201, H0486. Ala-238 to Ala-247, H0581. Pro-270 to Pro-277, H0038. Thr-283 to Thr-295, L0800. Leu-329 to Arg-338, L0794. Gln-345 to Arg-336, L0806. L0799. |
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| | 107970, 112262, 182600, 182870, 182870, 602086 |
| | 14q22-q23 |
| S0380: 1, H0696: 1, L0612: 1, L0745: 1, L0756: 1, L0780: 1, | AR089: 3, AR096: 2, AR060: 1, AR033: 1, AR104: 1, AR033: 1, AR055: 0, AR039: 0, AR053: 0 AR053: 0 AR053: 0 AR053: 0 AR053: 0 AR053: 0 AR059: 2, L0777: 2, L0759: 2, L0603: 2, L0759: 1, R0649: 1, R0649: 1, R0649: 1, R0649: 1, R0632: 1, R0649: 1, R0635: 1, L0485: 1, L0637: 1, L0638: 1, L0638: 1, L0774: 1, L0774: 1, L0764: 1, L0774: 1, L0659: 1, L0438: 1, L0659: 1, L0438: 1, L0659: 1, L0438: 1, L0569: 1, L0438: 1, L0569: 1, L0438: 1, L0569: 1, L0438: 1, R0547: 1, L0438: 1, R0547: 1, L0438: 1, R0547: 1, L0569: 1, R0519: 1, S0406: 1, S0 |
| <u> </u> | Ala-69 to Ser-77, AR089: 3, AR096: Arg-95 to Lys-102, AR060: 1, AR033: Gln-117 to Gln-125, AR104: 1, AR061: Tyr-133 to Arg-140, AR055: 0, AR039: Pro-157 to Ser-163, AR053: 0 Glu-190 to Phe-202, H0686: 4, H0574: 3, Trp-251 to Asn-258, H0412: 3, S0045: 2, Gln-270 to Gln-277, H0024: 2, L0777: 2, Gln-270 to Gln-277, H0064: 1, S0418: 1, S0358: 1, S0360: 1, H0619: 1, H06485: 1 H0620: 1, H06485: 1 H0620: 1, H0685: 1 H0620: 1, H0685: 1 H0620: 1, H0685: 1 H0620: 1, L0638: 1 L0773: 1, L0764: 1 L0773: 1, L0768: 1 L0774: 1, L0768: 1 L0774: 1, L0768: 1 L0774: 1, L0768: 1 H0519: 1, S0374: 1 H0519: 1, S0376: 1, S0374: 1 |
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| | 304040, 305100, 305450, 309605, 312760, 314250, 314580 | |
| | Xq13.1 | - |
| H0627: 1, H0631: 1, L0749: 1, L0779: 1, S0026: 1, H0136: 1 and S0194: 1. | AR060: 3, AR033: 1, AR089: 1, AR104: 1, AR096: 0, AR055: 0, AR039: 0, AR061: 0 S0360: 3, H0670: 3, H0556: 2, H0292: 2, H0686: 1, H0685: 1, S0134: 1, S0116: 1, H0642: 1, L0622: 1, L0586: 1, H0253: 1, L0586: 1, H0253: 1, L0657: 1, L0659: 1, L0657: 1, L0666: 1, L0663: 1, H0547: 1, H0659: 1, H0648: 1, H0659: 1, H0648: 1, H0659: 1, H0648: 1, H0659: 1, H0648: 1, H0653: 1, H0542: 1, | AR052: 2, AR033: 2, AR096: 2, AR053: 1, AR060: 1, AR104: 1, AR055: 1, AR089: 1, |
| <u>H II 60 60</u> | Lys-9 to Ser-15, Pro-29 to Ala-35. Fro-29 to Ala-35. Fro-29 to Ala-35. Fro-29 to Ala-35. Fro-29 to Ser-15, Fro-20 to Ser | Pro-1 to Arg-13, A Pro-71 to Ser-77, A Asn-107 to Ser-122, A Val-150 to Pro-155, A |
| | 2266 | 2267 |
| | 3 - 299 | 1 - 2418 |
| | 91 | 92 |
| | 902534 | 904763 |
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| Ser-235 to Lys-241, AR061: 0, AR039: 0 Arg-349 to Phe-360, S0358: 3, H0622: 2, Thr-363 to Glu-376, H0553: 2, H0090: 2, Gln-438 to Thr-443, L0769: 2, L0794: 2, Leu-466 to Ala-472, H0547: 2, R0265: 1, Ser-511 to Val-516, S0418: 1, H0208: 1, Glu-544 to Ser-550, S0045: 1, H0486: 1, Tyr-627 to Thr-632, H0052: 1, H0046: 1, Arg-650 to Lys-658, H0024: 1, H0634: 1, Asp-683 to Asn-H0375: 1, H0634: 1, Glu-740 to Glu-746, H0494: 1, H0561: 1, Tyr-755 to Glu-760, S0438: 1, H0561: 1, Tyr-755 to Glu-760, S0438: 1, H0521: 1, H0555: 1, L0779: 1, H0555: 1, L0779: 1, S0436: 1 and H0506: 1. | 2268 Lys-33 to Arg-46, AR033: 35, AR104: Met-141 to His-150, 29, AR089: 13, AR096: Thr-205 to Thr-211, 11, AR060: 9, AR052: Arg-218 to Ser-226. 8, AR053: 7, AR055: 6, AR039: 5, AR061: 2 L0745: 7, L0756: 7, L0598: 6, S0346: 5, S0036: 5, L0769: 4, L0777: 4, L0731: 4, S0010: 3, H0052: 3, |
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| S0051: 3, L0770: 3, | .0803: 3, L0438: 3, | .0758: 3, S0031: 3, | H0170: 2, H0438: 2, | S0049: 2, T0010: 2, | H0687: 2, H0038: 2, | H0616: 2, L0351: 2, | .0794: 2, L0806: 2, | .0790: 2, H0660: 2, | .0439: 2, L0751: 2, | .0754: 2, L0366: 2, | S6024: 1, S0300: 1, | H0351: 1, S0222: 1, | H0013: 1, T0048: 1, | H0194: 1, H0009: 1, | H0565: 1, H0050: 1, | H0242: 1, H0051: 1, | 40201: 1, S0388: 1, | H0083: 1, H0510: 1, | H0428: 1, H0031: 1, | .0455: 1, S0039: 1, | 40561: 1, L0369: 1, | .0520: 1, L0371: 1, | .0638: 1, L0796: 1, | 0637: 1, L0662: 1, | 20774: 1, L0635: 1, | _0809: 1, L0666: 1, | 0663: 1, H0659: 1, | H0648: 1, H0651: 1, | S0330: 1, S3014: 1, |
| 008 | 108 108 | 107 | H01 | 800 | 90H | 90H | L07 | 107 | 407 | 107 | 09S | H03 | H00 | H01 | HOS | H02 | H02 | 00H | H04 | 104 | HOS | T05 | 1706 | 907 | 107 | 108 1 | 106 | 90H . | S03 |
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| H # 1 | Gly-1 to Ser-9, Arg-127 to Arg-138, AR061: 3, AR089: 3, Tyr-188 to Arg-193, AR060: 3, AR055: 3, Arg-246 to His-254, AR104: 3, AR096: 3, Ser-428 to Arg-434, AR053: 3, AR039: 1 Lys-487 to Lys-493, L0157: 4, L0777: 4, Gly-515 to Leu-523, L0759: 4, H0551: 3, Leu-579 to Ala-588, S0360: 2, S0036: 2, Lys-631 to Cys-639, L0771: 2, L0775: 2, Lys-717 to Ser-724, L0659: 2, L0658: 2, H0672: 1, H0427: 1, S0374: 1, H0427: 1, S0346: 1, H0561: 1, H0722: 1, L0471: 1, S0440: 1, S0150: 1, L0770: 1, L0774: 1, L0662: 1, L0774: 1, L0665: 1, L0519: 1, L0665: 1, L0352: 1, L0665: 1, L0352: 1, L0665: 1, L0352: 1, |
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| H0547: 1, H0684: 1, H0539: 1, H0648: 1, H0539: 1, S0152: 1, S0028: 1, L0756: 1, L0779: 1, L0731: 1, L0758: 1, S0434: 1, S0436: 1, L0362: 1, H0542: 1 and H0422: 1. | R055: 2, AR089: 2, R055: 1, AR060: 1, R096: 1, AR033: 1, R061: 1, AR104: 1, R053: 0, AR039: 0 | AR053: 2, AR089: 2, AR055: 1, AR060: 1, AR096: 1, AR061: 0, AR039: 0, AR033: 0, AR104: 0 L0758: 6, H0620: 4, L0769: 4, L0777: 4, H0556: 3, S0420: 2, L0770: 2, L0803: 2, L0776: 2, L0659: 2, L0776: 2, L0591: 2, L0766: 2, S0374: 2, L0748: 2, L0591: 2, H0265: 1, H0685: 1, S0134: 1, H0484: 1, S0354: 1, S0360: 1, |
| H0547: H0659: H0539: S0028: 1 L0779: 1 L0758: 1 S0436: 1 H0542: | Gln-76 to Asp-82, AR052: Lys-96 to Gln-103, AR096: AR096: AR061: AR061: AR053: | Cys-1 to Cys-15, Arg-24 to Gly-31, Arg-24 to Gly-31, Lys-37 to Glu-47, Glu-85 to Lys-92, Arg-166 to Lys-181, Che-216 to His-229, Che-216 to His-229, Che-266 to Lys-181, Che-269 to Cys-267, Che-269 to Cys-267, Che-266 to Cys-267, |
| | 2270 Gli Ly | 2271 Cy Arright Cy C |
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| | 126600, 126600, 136435, 160980, 203800, 600678 |
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| | 2p14-p16 |
| H0415: 1, H0587: 1, H0599: 1, H0053: 1, H0052: 1, H0081: 1, H0058: 1, H06428: 1, H0059: 1, H0633: 1, L0766: 1, L0650: 1, L0805: 1, L0655: 1, L0664: 1, H0144: 1, L0648: 1, H0144: 1, H0690: 1, H0682: 1, S0378: 1, H0521: 1, L0439: 1, L0740: 1, L0751: 1, L0755: 1, L0595: 1, H0665: 1, | L0775: 6, H0659: 5, L0438: 4, L0747: 4, S0408: 3, L0439: 3, H0040: 2, L0509: 2, L0513: 2, L0751: 2, L0756: 2, L0755: 2, L0596: 2, L0755: 2, S0040: 1, H0341: 1, S0354: 1, H0411: 1, H0497: 1, S0049: 1, H0373: 1, T0010: 1, S0214: 1, S0366: 1, H0413: 1, L0769: 1, L0772: 1, L0769: 1, |
| | Ala-65 to Lys-73, L0775: 6, H0659: 5 Phe-135 to Arg-140, L0438: 4, L0747: 4, Glu-174 to Pro-184, S0408: 3, L0439: 3, Glu-207 to Ala-212, H0040: 2, L0509: 2, Lys-220 to Asp-231, L0513: 2, L0751: 2, Glu-268 to Asn-286, L056: 2, L0755: 2, Glu-268 to Asn-286, L0596: 2, L0362: 2, Leu-378 to Ser-384, S0040: 1, H0341: 1, Glu-481 to Gly-437, S0354: 1, H0411: 1, Clu-488 to Trp-495, H0497: 1, S0049: 1, H0413: 1, L0769: 1, L0772: 1, L0764: 1, |
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| L0626: 1, L0768: 1, L0387: 1, L0766: 1, L0498: 1, L056: 1, L0774: 1, L0375: 1, L0508: 1, L055: 1, L0657: 1, L0783: 1, L0663: 1, L0352: 1, H0547: 1, H0593: 1, H0648: 1, S0136: 1, H0522: 1, H0696: 1, L0750: 1, L0758: 1, S0434: 1, L0604: 1 and H0423: 1. | AR096: 7, AR089: 6, AR060: 5, AR053: 4, AR104: 4, AR033: 3, AR055: 3, AR061: 2 L0777: 13, L0766: 6, L0803: 4, L0752: 4, L0769: 3, L0794: 3, L0747: 3, L0754: 3, L0747: 3, L0755: 3, L0805: 2, L0755: 2, L0655: 2, L0659: 2, H0547: 2, L076: 2, L0596: 2, H0650: 1, R0360: 1, S0010: 1, H0150: 1, H0024: 1, H0091: 1, H0553: 1, L0761: 1, L0771: 1, |
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| · · · · · · · · · · · · · · · · · · · | Asn-21 to Lys-39, Leu-43 to Lys-48. |
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| L0363: 1, L0804: 1, H0519: 1, S0122: 1, H0435: 1, H0658: 1, H0648: 1, L0740: 1, L0750: 1, L0757: 1, H0543: 1 and H0423: 1 | S0444: 5, S0358: 4, S0410: 4, S0406: 4, L0759: 4, L0604: 4, H0686: 3, H0728: 3, H0658: 3, L0747: 3, L0581: 3, H0657: 2, H00341: 2, H0648: 2, H0034: 2, H0038: 2, L0774: 2, L0778: 2, L0601: 2, S0114: 1, H0381: 1, S0114: 1, H0381: 1, S0442: 1, S0360: 1, H0730: 1, H0735: 1, H0730: 1, H0735: 1, |
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| | Gly-65 to Arg-77. |
| | 2274 |
| | 2 - 232 |
| | 66 |
| | 915068 |
| | HWMMQ47 |

| | 160760, 160760, 182600, |
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| | 14q11-q12 |
| S0045: 1, S0046: 1, S0132: 1, H0587: 1, H0559: 1, L0622: 1, H0486: 1, T0114: 1, T0082: 1, S0010: 1, H0421: 1, H0173: 1, H0231: 1, L0738: 1, H0569: 1, H0674: 1, H0616: 1, H0674: 1, H0616: 1, H0674: 1, H0616: 1, H0529: 1, L0763: 1, L0609: 1, L0769: 1, L0609: 1, L0764: 1, L0662: 1, L0764: 1, L0749: 1, L0771: 1, L0742: 1, L0772: 1, L0749: 1, L0752: 1, L0731: 1, S0436: 1, H0668: 1, | H0373: 1 and H0617: 14q11-q12 |
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| 600243, 600792, | 601369, | 602086, | 602279, 602279 | | | | | | | | | | | | | | | | | | | | | | - |
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| | | | | H0615: 2 and S0052: 1. | L0731: 7, L0605: 6, | 0659: 4, 10756: 4, | 0803: 3, H0648: 3, | L0777: 3, S0358: 2, | S0408: 2, L0021: 2, | H0014: 2, T0010: 2, | L0143: 2, H0641: 2, | L0638: 2, L0662: 2, | L0794: 2, L0776: 2, | L0657: 2, L0809: 2, | L0666: 2, L0663: 2, | L0751: 2, L0755: 2, | L0758: 2, L0588: 2, | H0543: 2, H0170: 1, | H0657: 1, S0212: 1, | H0661: 1, H0663: 1, | S0420: 1, S0360: 1, | L0717: 1, L0586: 1, | L0105: 1, H0318: 1, | H0581: 1, H0052: 1, | H0309: 1, L0157: 1, |
| | | | | Arg-7 to Arg-12, Pro-77 to Asp-82. | Pro-1 to Val-11, | Asp-25 to Glu-34, 1 | Thr-147 to Arg-152, L | Glu-160 to Cys-172. | | | | | | | | | | | | | | | • | | |
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| | | | | 567 - 941 | 3 - 536 | | | | | | | | | | | | | | | | | | | | |
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| | | | - | 917394 | 917716 | | | | | | | | | | | | | | | | | | | | |
| | | | | HODGH45 | HWLKE58 | | | | | | | | | | | | | | | | | | • | | |

| | 141750, 141800, 141800, 141800, 141850, 141850, 141850, 141850, 141850, 141850, 141850, 141850, |
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| | 16p13.3 |
| L0471: 1, H0024: 1, H0354: 1, S0003: 1, H0328: 1, H0615: 1, H0169: 1, H0163: 1, H0090: 1, H0272: 1, T0041: 1, S0440: 1, S0142: 1, S0210: 1, L0372: 1, L0645: 1, L065: 1, L0651: 1, L065: 1, L0789: 1, H0682: 1, H0435: 1, H0659: 1, S0380: 1, H0518: 1, H0696: 1, L0746: 1, L0750: 1, L0779: 1, L0752: 1 and S0260: 1. | H0424: 5, H0550: 3, L0769: 3, L0601: 3, S0408: 2, H0592: 2, H0560: 2, L0761: 2, L0774: 2, L0806: 2, L0777: 2, L0780: 2, L0777: 2, L0780: 2, L0759: 2, H0136: 2, S0424: 2, H0170: 1, H0556: 1, H0341: 1, S0442: 1, S0356: 1, |
| | Phe-1 to Arg-7, Arg-40 to Gly-46, Lys-96 to Ser-102, Cys-126 to Ala-131, Asp-260 to Leu-265, Arg-308 to Gly-314. |
| | 2278 |
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| | 919433 |
| | HRADI.40 |

| 191092, | 600273, | 601313, | 601785 | | | - | | | | | | | | | | | | | | | 148370, | 238600, | 238600, | 238600, | 238600, | 600143, | 601385, |
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| S0278: 1, H0390: 1, | H0510: 1, H0687: 1, | H0688: 1, H0622: 1, | T0006: 1, H0033: 1, | H0213: 1, H0617: 1, | S0450: 1, S0440: 1, | L0646: 1, L0773: 1, | 4 | L0653: 1, L0655: 1, | L0657: 1, L0656: 1, | L0783: 1, L0789: 1, | — | H0547: 1, H0658: 1, | H0660: 1, H0648: 1, | S0380: 1, H0696: 1, | H0555: 1, S0027: 1, | S0028: 1, L0748: 1, | L0439: 1, L0751: 1, | L0752: 1, L0596: 1, | L0599: 1, L0604: 1 and | H0543: 1. | | 1, AR089: | AR096: 1, AR033: 0, | AR039: 0 | H0415: 2 and H0414: | <u>-1</u> | |
| | | | • | | | | | | | | | | | | | | | | | | Ala-24 to Phe-30, | Asn-42 to Trp-48, | Val-57 to Leu-62, | Ser-90 to Gln-96, | Lys-104 to Cys-112, | Gly-150 to Gly-159, | Tyr-180 to Cys-186, |
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| | | | | H0415: 4 | L0805: 9, L0747: 9, | L0770: 8, L0794: 8, | L0756: 8, H0271: 7, | L0769: 5, L0748: 5, | L0750: 5, H0305: 4, | L0766: 4, L0804: 4, | L0809: 4, H0265: 3, | H0052: 3, H0051: 3, | H0623: 3, L0803: 3, | L0775: 3, H0556: 2, | H0441: 2, H0486: 2, | H0069: 2, H0050: 2, | H0620: 2, S0051: 2, | H0416: 2, S0036: 2, | H0135: 2, S0002: 2, | L0761: 2, L0768: 2, | L0666: 2, H0144: 2, | L0438: 2, L0439: 2, | L0777: 2, S0114: 1, | L0785: 1, S0001: 1, | S0035: 1, H0402: 1, | H0638: 1, H0580: 1, | S0045: 1, S0046: 1, | S0222: 1, H0333: 1, | H0635: 1, H0036: 1, |
| Pro-193 to Asp-210, | Pro-220 to Ser-235, | Ser-306 to Asp-313, | Thr-339 to Ile-346. | Phe-24 to Glu-48. | Tyr-44 to Trp-63, | Thr-84 to Thr-90, | Gln-111 to Tyr-116. | • | | | | | | | | | | - | | | | | • | • | | | | | |
| | | | | 2280 | 2281 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 21 - 272 | 1 - 666 | | | | | | | | | | | | | | | | | | | | | | | | |
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| H0581: 1, H0024: 1, H0687: 1, H0068: 1, H0040: 1, H0412: 1, H0056: 1, S0352: 1, L0763: 1, L0796: 1, L0375: 1, L0800: 1, L0798: 1, L0790: 1, L0791: 1, L0663: 1, L0665: 1, S0052: 1, S0428: 1, S0216: 1, H0519: 1, H0593: 1, H0555: 1, L0779: 1, L0786: 1, L0366: 1, | L0752: 24, L0751: 7, L0748: 6, L0777: 6, L0775: 5, L0742: 5, L0749: 5, S0358: 4, L0776: 4, L0756: 4, S0376: 3, L0757: 3, S0212: 2, S0444: 2, S0010: 2, L0770: 2, L0764: 2, L0773: 2, L0774: 2, H0519: 2, L0774: 2, L0773: 2, L0773: 2, L0773: 2, |
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| | | | | 133510, 133510, |
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| | | | | 2q21-q22 |
| L0604: 2, L0603: 2, S0298: 1, H0661: 1, S0360: 1, S0354: 1, H0632: 1, H0156: 1, H00421: 1, H0196: 1, H0052: 1, L0738: 1, H0059: 1, L0471: 1, H0059: 1, S0003: 1, T0067: 1, H0413: 1, L0794: 1, L0766: 1, L0794: 1, L0766: 1, L0783: 1, S0374: 1, H0659: 1, S0328: 1, S0406: 1, S0328: 1, S0406: 1, L0799: 1, L0439: 1, L0759: 1, L0439: 1, L0759: 1, L0753: 1, L0759: 1, | H0615: 2 | H0615: 3 and H0352: 1. | H0328: 1 and H0615: 1. | |
| | Lys-1 to Trp-26, Lys-34 to Ile-42. | | Lys-10 to Arg-32. | |
| | 2283 | 2284 | 2285 | 2286 |
| | 3 - 227 | 1 - 174 | 3 - 311 | 1368 - 781 |
| | 108 | 109 | 110 | 111 |
| · | 922879 | 922955 | 925296 | 925735 |
| | HODGI03 | HODHD14 | НОДДС03 | HVCAG04 |

| 165320, | 223000, | 223000, 256030 | | | | | | | | | | | | | | | | | | |
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| | | | L0756: 6, L0776: 2, L0744: 2, H0486: 1, H0327: 1, S0003: 1, | H0090: 1, L0761: 1, | L0518: 1, H0659: 1, H0670: 1, S0406: 1 | L0777: 1, L0780: 1, | L0605: 1, L0366: 1 and H0423: 1. | AR053: 3, AR089: 3, AR096: 2, AR060: 2, | AR033: 2, AR061: 1, | AR104: 1, AR055: 0 | | S0212: 4, H0580: 1, | S0045: 1, H0351: 1, | S0010: 1, S0003: 1, | H0560: 1, S0002: 1 and 1.0604: 1. | L0758: 4, H0556: 3, | L0751: 3, S0408: 2, | H0618: 2, L0768: 2, | H0547: 2, H0660: 2, | L0754: 2, L0779: 2, |
| | | | | - | | | | 1 | ٠.: | | Pro-21 to Ala-28. | Pro-18 to Leu-25, | Asp-72 to Ser-82, | Pro-97 to Gly-107, | Leu-110 to Ser-137. | Ala-9 to Trp-14. | | | | |
| | | | 2287 | | | | | 2288 | | | 2289 | 2290 | | | | 2291 | | | | • |
| | | | 31 - 129 | | | | | 2028 - | | | 2-94 | 3 - 983 | | | | 2 - 1150 | | | | |
| | <u>:</u> | | 112 | | | | | 113 | | | 114 | 115 | | | | 116 | | | | |
| | | | 925837 | | | | | 926067 | | | 928396 | 930484 | | | | 933568 | | | | |
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| H0661: 1, H0370: 1, H0491: 1, H0318: 1, H0566: 1, H0551: 1, L0769: 1, L4747: 1, L5566: 1, L0772: 1, L0644: 1, L0774: 1, L0773: 1, L0774: 1, L0807: 1, L0659: 1, L0775: 1, L0809: 1, L0659: 1, L0743: 1, L0777: 1, L0756: 1, and L0601: L0759: 1 and L0601: | H0659: 2 and L0777: 2. | L0794: 11, L0511: 11, L0748: 10, L0747: 8, L0749: 6, L0805: 6, L0507: 5, L0509: 5, L0508: 5, L0508: 5, L0508: 5, L0751: 5, L0751: 5, L0751: 5, L0750: 5, L0493: 4, L0649: 4, L0649: 4, L0649: 4, L0649: 4, L0649: 4, L0649: 4, L0779: 4, H0670: 4, L0779: 4, H0645: 4, H0657: 3, H0036: 3, S0422: 3, |
| | Val-18 to Glu-33. | |
| | 2292 | 2293 |
| | 147 - 281 | 2 - 562 |
| | 117 | 118 |
| | 933678 | 933989 |
| | HPCOR06 | HTFN006 |

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| L0504: 3, L0768: 3, | L0510: 3, L0789: 3, | H0659: 3, L0439: 3, | L0745: 3, L0749: 3, | H0656: 2, S0442: 2, | 80358: 2, 80444: 2, | S0360: 2, H0580: 2, | H0549: 2, H0486: 2, | H0687: 2, H0328: 2, | S0438: 2, L0505: 2, | L0775: 2, L0657: 2, | L0515: 2, L0518: 2, | H0658: 2, H0651: 2, | S0380: 2, H0696: 2, | S0406: 2, H0436: 2, | L0777: 2, L0755: 2, | L0758: 2, L0759: 2, | L0588: 2, L0605: 2, | H0423: 2, S0412: 2, | S0424: 2, H0686: 1, | S0116: 1, S0212: 1, | H0254: 1, H0255: 1, | S0418: 1, S0476: 1, | S6022: 1, H0431: 1, | H0497: 1, H0333: 1, | T0114: 1, H0635: 1, | H0421: 1, H0204: 1, | H0150: 1, H0081: 1, | H0047: 1, H0023: 1, | H0083: 1, H0615: 1, |
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| H0039: 1, H0674: 1, L0455: 1, H0087: 1, H0059: 1, T0041: 1, T0042: 1, H0494: 1, H0509: 1, H0646: 1, S0002: 1, L0800: 1, L0644: 1, L0533: 1, L0804: 1, L0650: 1, L0774: 1, L0806: 1, | L0659: 1, L0782: 1, L0519: 1, L0793: 1, L0664: 1, H0144: 1, L0438: 1, H0520: 1, | H0547: 1, H0711: 1, H0660: 1, S0152: 1, S0032: 1, L0754: 1, L0731: 1, L0757: 1, L0592: 1, S0194: 1, H0543: 1, H0422: 1, | L0803: 4, H0615: 2, S6028: 1, L0521: 1, L0662: 1, L0794: 1 and L0756: 1. | H0650: 1, S0212: 1, S0358: 1, H0441: 1, H0587: 1, S003: 1, H0494: 1, H0529: 1, |
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| | | | Arg-40 to Gln-45. | Lys-121 to Arg-127. |
| | | | 2294 | 2295 |
| | | | 130 - 339 | 3 - 1283 |
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| | 147200, 178640, 216900 |
| | 2p12 |
| L0766: 1, H0690: 1, H0539: 1, H0696: 1, H0555: 1, L0439: 1, L0779: 1 and S0242: 1. | S0358: 250, H0087: 131, S0376: 112, L0751: 93, H0445: 88, H0506: 87, L0599: 69, S0360: 67, H0672: 63, S0328: 63, S0116: 56, S0374: 55, H0597: 47, L0767: 47, L0744: 45, H0555: 44, H0486: 43, H0581: 35, H0697: 24, L0569: 26, H0658: 26, L0378: 24, L0546: 24, L0743: 24, H0255: 23, L0768: 23, H0255: 23, L0768: 24, L0546: 24, L0743: 24, H0255: 23, L0768: 24, L0546: 24, L0743: 24, H0255: 23, L0768: 23, H0255: 23, L0768: 24, L0546: 21, H0231: 26, H0658: 18, H0659: 27, L0569: 11, L0669: 28, H0421: 12, L0379: 29, L0663: 10, L0372: 20, H0659: 11, L0660: 21, L0663: 10, L0372: 21, L0668: 9, H0663: 8, |
| L0766 H0539 H0555 L0779 | SSON 11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1 |
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| H0156: 8, H0108: 8, | H0039: 8, H0622: 8, | .0775: 8, L0375: 8, | S0430: 7, H0254: 7, | H0252: 7, H0090: 7 | H0272: 7, L0655: 7, | .0538: 7, L0754: 7, | H0444: 7, H0004: 6, | H0234: 6, H0188: 6, | H0488: 6, L0523: 6, | .0664: 6, H0656: 5, | J0808: 5, H0662: 5, | H0274: 5, H0251: 5, | H0235: 5, L0646: 5, | .0662: 5, L0526: 5, | S0462: 5, H0677: 5, | S0384: 5, H0664: 4, | H0590: 4, H0591: 4, | H0634: 4, H0646: 4, | .0763: 4, L0770: 4, | S0380: 4, S0432: 4, | 650: 3 | S0356: 3, S0408: 3, | H0042: 3, L0774: 3, | .0547: 3, L0783: 3, | H0684: 3, S0404: 3, | .0777: 3, S0434: 3, | H0671: 2, S0442: 2, | S0444: 2, H0489: 2, | H0485: 2, H0427: 2, |
| 8, H(| 8, H(| : 8, LO | 7, H0 | 7, H(| :7, LO | 7,10 | : 7, H(| : 6, H(| : 6, LC | : 6, HO | : 5, HC | : 5, H(| 5, LC | : 5, LO | : 5, H0 | : 5, H0 | : 4, H(| : 4, H(| :4, L0 | : 4, S0 | : 4, HC | : 3, S0 | 3, LC | :3,10 | 1. 3, SC | 3, 80 | : 2, S0 | : 2, H0 | : 2, H(|
| H0156 | H0039 | 10775 | S0430 | H0252 | H0272 | L0538 | H044 | H0234 | H0488 | L0664 | 10808 | H0274 | H0235 | 10662 | S0462 | S0384 | H0590 | H0634 | 1.0763 | S0380 | L0581 | 80356 | H0042 | L0547 | H0684 | 1,077 | H0671 | S0444 | H0485 |
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| H0575: 2, H0037: 2, | 100/1: 2, f10204: 2, | H0232: 2, F10030: 2, | H0068: 2, S0382: 2, | S0464: 2, H0538: 2, | .0369: 2, L0627: 2, | _0387: 2, L0633: 2, | L0657: 2, L0518: 2, | L0666: 2, L0665: 2, | S0378: 2, L0758: 2, | H0343: 2, S0458: 2, | UNKWN: 2, H0352: 2, | H0186: 1, H0583: 1, | L0760: 1, H0125: 1, | H0676: 1, H0619: 1, | H0549: 1, H0101: 1, | H0635: 1, L0021: 1, | H0025: 1, H0120: 1, | S0182: 1, H0596: 1, | H0054: 1, H0086: 1, | H0045: 1, H0350: 1, | H0014: 1, H0510: 1, | H0375: 1, T0023: 1, | H0111: 1, H0383: 1, | H0113: 1, H0376: 1, | H0477: 1, H0487: 1, | H0059: 1, T0004: 1, | H0396: 1, S0352: 1, | S0370: 1, H0641: 1, |
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| S0472: 1, H0652: 1, S0326: 1, H0517: 1, L0764: 1, L0765: 1, L0773: 1, L0766: 1, L0806: 1, L0376: 1, L0817: 1, L0527: 1, L0517: 1, L0542: 1, L0517: 1, L0542: 1, H0666: 1, H0579: 1, S0350: 1, H0134: 1, H0214: 1, S0406: 1, H0576: 1, H0478: 1, S0322: 1, L0747: 1, L0779: 1, L0780: 1, L0755: 1, S0394: 1, | Thr-1 to Pro-6, Pro-57 to Thr-63, Arg-110 to Asp-115, 9, AR033: 10, AR039: Arg-110 to Asp-115, 9, AR096: 9, AR060: Lys-147 to Pro-152, 9, AR055: 8, AR104: Met-221 to Cys-228, 7, AR061: 6 Tyr-254 to Cys-261, H0415: 1, H0438: 1, Lys-286 to Gly-295, H0486: 1, H0581: 1, Thr-315 to Gly-295, H0494: 1 and L0659: 1. Ile-380 to Gln-387, Gly-409 to Arg-419, Val-421 to Val-428. | Glu-181 to Pro-189, AR052: 12, AR055: Lys-211 to Arg-217, 11, AR053: 10, AR089: |
| | Thr-1 to Pro-6, AR053: 15 Pro-57 to Thr-63, 14, AR033: Arg-110 to Asp-115,9, AR096: Lys-147 to Pro-152, 9, AR055: Met-221 to Cys-228,7, AR061: Tyr-254 to Cys-261, H0415: 1, Lys-286 to Gly-295, H0486: 1, F Thr-315 to Gly-295, H0494: 1 ar Ile-380 to Gln-387, Gly-409 to Arg-419, Val-421 to Val-428. | Glu-181 to Pro-189, Lys-211 to Arg-217. |
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| 9, AR033: 8, AR096: 8, AR060: 8, AR061: 7, AR104: 5, AR039: | L0748: 4, H0441: 2, H0333: 2, H0670: 2, | H0660; 2, L0439; 2, L0747; 2, L0601; 2, | SUZ18: 1, HUG5U: 1, H0656: 1, H0254: 1, | H0255: 1, H0013: 1, | H0327: 1, H0266: 1, H0070: 1, H0040: 1. | T0042: 1, L0809: 1, | L0790: 1, L0792: 1, | H0689: 1, H0435: 1, | H0134: 1, L0741: 1, | L0759: 1 and S0042: 1. | AR039: 13, AR104: 7 | AR053: 6, AR089: 6, | | AR060: 5, AR033: 4, | AR055: 4, AR061: 3 | H0428: 3, H0545: 1 | and L0754: 1. | AR089: 19, AR096: | | | | 1, AR104: 1, AR052: |
| 0, 30 (- 3 | | | | | | | | | | | Lys-30 to His-47. | · • | | | • | | | Trp-2 to Ile-8, | Cys-31 to Asp-39, | Glu-54 to Ser-61, | Gln-63 to Lys-70, | Arg-79 to Arg-85, |
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| | L0439: 4, L0756: 4, | 10616: 3, L0766: 3, | L0803: 3, L0777: 3, | H0662: 2, H0428: 2, | _0665: 2, H0547: 2, | _0602: 2, L0779: 2, | _0731: 2, H0624: 1, | 86024: 1, 80114: 1, | H0661: 1, S0356: 1, | .0717: 1, H0409: 1, | H0486: 1, S0003: 1, | H0615: 1, S0036: 1, | H0163: 1, S0426: 1, | .0662: 1, L.0649: 1, | | .0806: 1, L0655: 1, | .0661: 1, L0659: 1, | .0791: 1, L0792: 1, | .0666: 1, H0144: 1, | H0658: 1, H0672: 1, | S0152: 1, H0521: 1, | .0754: 1, L0759: 1, | .0591: 1, S0011: 1 and | H0008: 1. | H0670: 2 | H0318: 1, H0150: 1 | and L0385: 1. | H0622: 2, H0422: 2, | S0358: 1, H0497: 1, |
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| Ser-134 to His-143, C | Asn-145 to Thr-150, | Ser-155 to Thr-168, H0616: 3, L0766: 3, | Asp-198 to His-203, I | Phe-205 to Asp-234, H0662: 2, H0428: 2, | Pro-238 to Asn-252, I | | Pro-292 to Leu-314, I | <u> </u> | Lys-335 to His-342. | | | | | | <u> </u> | | | | | | <u> </u> | | | F | Tyr-37 to Ser-47. | His-1 to Phe-8. | ď | Met-1 to Leu-7, | He-21 to GIn-33, S |
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| Pro-48 to Glu-53, H0039 His-66 to Asn-71, L0662: Asp-107 to Glu-118, L0596; Val-122 to Leu-133, Gly-185 to Gly-194, Thr-249 to Ser-258, Lys-310 to Lys-328, Arg-367 to Phe-375, Ser-377 to Ala-382, Gly-380 to Trn-395 | 7.07 |
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| L0750: 1, L0752: 1, H0543: 1 and S0412: 1. | AR061: 4, AR096: 3, AR089: 3, AR055: 3, AR060: 2, AR104: 2 | 2, AR033: | H0555: 2, S0040: 1, | S0444: 1, H0619: 1, | H0618: 1, H0620: 1, | | AK052: 11, AK089: 5, | 4, AR033: | 3, AR104: | S0007: 3, L0758: 3, | S0382: 2, L0805: 2, | L0776: 2, H0666: 2, | L0748: 2, S6024: 1, | H0341: 1, H0331: 1, | H0628: 1, H0038: 1, | S0002: 1, L0770: 1, | L0662: 1, L0766: 1, | L0522: 1, L0659: 1, | L0663: 1, H0519: 1, | H0659: 1, L0602: 1, | L0754: 1, L0749: 1, | L0779: 1 and L0731: 1. | AR060: 10, AR055: 6, |
| | Tyr-10 to Gly-19, Pro-55 to Lys-72, Gly-89 to Ala-95 | Asp-107 to Gly-113, AR039: | 718-140 to 1111-147. | | | | | | | | | | | | | | | | • | | - | | Phe-25 to Lys-31, |
| | 2305 | | | | | 0000 | 2300 | | | | | | | | | | | | | | | | 2307 |
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| Pro-60 to Lys-82, AR096: 4 Tyr-122 to Asp-131, AR089: 4, AR39: 10599: 4, H0652: 2, E0756: 2, E0756: 1, H0013: 1, H00 | Gln-7 to Lys-23, AR055: Gln-49 to Glu-54. AR033: AR033: AR104: S0358: S0444: 4 S0376: 1 S0410: 1 H0231: 1 S0368: 1 |
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| | Ser-14 to Ser-23, L0803: 4, L0663: 3 His-30 to Ser-45, S0420: 2, L0666: 2, Gly-55 to Arg-67, H0435: 2, L0748: 2, Leu-71 to Leu-76, L0777: 2, S0116: 1, Leu-97 to Glu-102, S0132: 1, H0370: 1, Ser-118 to Pro-129, L0664: 1, H0658: 1, Leu-189 to Ser-204. S0328: 1, L0749: 1, S0436: 1 and L0097 | Asn-4 to Lys-9, Arg-37 to Pro-42, Pro-79 to Ile-91, Asp-144 to Trp-155, Asp-189 to Gln-194, Ser-199 to Ser-204, |
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| | L0748: 2, L0749: 2, H0024: 1 and H0051: 1. | | H0449: 1, H0393: 1, H0691: 1, H0547: 1 and | H0711: 1. | - | | | | | 1.0774: 3. 1.0809: 2 | H0483: 1, H0306: 1, | H0599: 1, H0618: 1, | H0083: 1, H0644: 1, | H0617: 1, H0606: 1, | H0087: 1, L0369: 1, | L0763: 1, L0643: 1, | .0662: 1, L0794: 1, | L0804: 1, L0790: 1, |
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| | 5q23.3- q31.2 | |
| L0665: 1, H0658: 1, H0696: 1, L0748: 1, | 11, 11, 11, 11, 11, 11, 11, 11, 11, 11, | AR033: 7, AR104: 7, AR055: 4, AR060: 3, AR096: 3, AR089: 3, AR061: 3, AR053: 2, AR052: 2, AR039: 1 |
| H H | Val-35 to Leu-44, L0794: 3, H0255: Gln-60 to Arg-67, H0318: 2, H0251: 2 Glu-72 to Asn-84, L0764: 2, L0628: 2 Glu-131 to Cys-152, L0665: 2, H0658: 2 Tyr-162 to Gly-175, L0361: 2, H0265: 1 Tyr-162 to Gly-175, L0361: 2, H0265: 1 Gly-184 to Gly-223, H0483: 1, S0420: 1 Asp-261 to Arg-266, S0358: 1, S0132: 1 Asn-270 to Glu-275, S0222: 1, T0082: 1 Tyr-302 to Asn-310, S0214: 1, H0252: 1 Lys-331 to Arg-402 to Lys-422, L0662: 1, L0535: Arg-402 to Lys-422, L0662: 1, L0535: H0519: 1, H0660: 1, L0663: H0660: 1, L0663: H0660: 1, L0647: L0777: 1, L0601: S0276: 1, H0422: 1. | Leu-98 to Cys-107, Ala-135 to Ala-142, Pro-233 to Lys-238, Gln-246 to Ala-257, Ser-294 to His-302. |
| | 2317 | 2318 |
| | 2 - 1267 | 2 - 994 |
| | 142 | 143 |
| | 967807 | 968171 |
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| | 2q32.1 |
| L0742: 4, S0007: 3, L0439: 3, S0040: 2, H0009: 2, L0769: 2, L5566: 2, L0764: 2, L0740: 2, L0758: 2, S0110: 1, S0010: 1, H0390: 1, S0049: 1, L0157: 1, H0563: 1, H0024: 1, H0252: 1, H0040: 1, H0573: 1, H0040: 1, H0591: 1, L0763: 1, H0691: 1, L0763: 1, H0591: 1, L0763: 1, H0539: 1, H0696: 1, H0539: 1, H0696: 1, H0555: 1, L0777: 1. | L0766: 2, L0776: 2, L0438: 2, S0114: 1, S0007: 1, H0393: 1, S0222: 1, H0486: 1, H0009: 1, H0012: 1, H0014: 1, H0083: 1, H0628: 1, S0003: 1, H0628: 1, T0067: 1, H0100: 1, S0344: 1, H0521: 1, S0032: 1, |
| | Arg-1 to Gly-8, L0766: Pro-10 to Ser-72, L0438: 2 Thr-80 to Gln-86, S0007: 1 Pro-96 to Ala-102, S0222: 1 Ser-137 to Val-146, H0009: 1 Leu-207 to Asp-214, H0014: 1 Gln-219 to Thr-226. H0687: 1 H0628: 1 H0628: 1 H0521: 1 |
| | 2319 |
| | 334 - 1011 |
| | 144 |
| | 968454 |
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| | 106165, 110100, 117700, 117700, 150210, 169600, 180380, 180380, 203500, 2222900, 276902, 601199, 601199, | |
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| | 3923-925 | |
| L0745: 1, L0746: 1, L0750: 1, L0779: 1, L0752: 1, L0753: 1, L0755: 1, L0757: 1, S0026: 1, S0276: 1 and H0543: 1. | Ju-20 to Lys-33, H0574: 6, L0362: 6, ker-96 to His-109, H0510: 5, L0666: 5, ksn-147 to Val-166, L0665: 4, S0358: 3, Hu-188 to Ala-194, H0670: 3, H0013: 2, Ala-231 to Lys-240, H0421: 2, H0046: 2, Ala-267 to Lys-283, S0438: 2, L0775: 2, Arg-332 to Thr-338, L0581: 2, H0431: 1, Fhr-365 to Tyr-377, H0004: 1, H0014: 1, Slu-406 to Lys-417, S0003: 1, L0456: 1, Arg-462 to Glu-467, S0400: 1, L0525: 1, Leu-595 to Glu-615, L0607: 1, L0664: 1, Phe-667 to Tyr-675, H0593: 1, H0683: 1, Gln-722 to Gly-729, H0658: 1, L0755: 1 and S0276: 1, | L0747: 5, H0318: 3, H0617: 3, L0749: 3, L0776: 2, H0483: 1, H0615: 1, H0039: 1, L055: 1, L0769: 1, L0521: 1, L0766: 1, L0375: 1, L0809: 1, |
| <u> </u> | Glu-20 to Lys-33, H0574: 6, L0362: 6 Ser-96 to His-109, H0510: 5, L0666: 5, Asn-147 to Val-166, L0665: 4, S0358: 3, Glu-188 to Ala-194, H0670: 3, H0013: 2, Ala-231 to Lys-240, H0421: 2, H0046: 2, Ala-267 to Lys-283, S0438: 2, L0775: 2, Met-291 to Gly-297, L0746: 2, L0756: 2, Arg-332 to Thr-338, L0581: 2, H0431: 1, Thr-365 to Tyr-377, H0004: 1, H0014: 1, Glu-406 to Lys-417, S0003: 1, L0456: 1, Arg-462 to Glu-467, S0440: 1, L0770: 1, Ile-525 to Asp-535, L0803: 1, L0525: 1, Leu-595 to Glu-615, L0607: 1, L0664: 1, Phe-667 to Tyr-675, H0593: 1, H0683: 1 Gln-722 to Gly-729, H0658: 1, L0755: 1 | Pro-16 to Pro-21, Ser-33 to Gly-38. |
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| | 3951 - 1765 | 580 - 825 |
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| | 968949 | 969387 |
| | HBLGD30 | HFIHK04 |

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| H0520: 1, H0689: 1, H0672: 1, S0152: 1, L0750: 1, L0608: 1 and S0194: 1. | H0615: 6, L0766: 3, L0779: 2, L0777: 2, H0556: 1, S0222: 1, H0438: 1, H0492: 1, H0013: 1, H0156: 1, H0052: 1, H0561: 1, S0440: 1, S0150: 1, H0538: 1, L0769: 1, L0805: 1, L0647: 1, S0374: 1, H0518: 1, S0152: 1, L0740: 1, L0756: 1, L0755: 1, L0756: 1, H0645: 1, S0026: 1 and H0653: 1. | L0439: 6, L0756: 5, L0779: 5, L0777: 5, L0759: 5, L0776: 4, H0620: 3, L0747: 3, L0755: 3, S0442: 2, S0358: 2, H0615: 2, L0770: 2, L0768: 2, H0144: 2, S0374: 2, L0748: 2, L0740: 2, L0745: 2, L0750: 2, |
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| | 2322 | 2323 |
| | 7 - 798 | 2 - 1105 |
| | 147 | 148 |
| | 969841 | 970046 |
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| L0599: 2, S0134: 1, S0222: 1, H0642: 1, H0013: 1, H0156: 1, S0010: 1, H0052: 1, H0596: 1, H0083: 1, S0228: 1, H0687: 1, S0250: 1, S0003: 1, S0214: 1, H0644: 1, H0622: 1, H0644: 1, H0632: 1, L0762: 1, L076: 1, L0762: 1, L076: 1, L0762: 1, L076: 1, L0775: 1, L073: 1, H0683: 1, H0672: 1, S0328: 1, H0659: 1, S0328: 1, H0659: 1, S0328: 1, H0659: 1, L0749: 1, L0753: 1, L0749: 1, L0753: 1, L0749: 1, L0753: 1, L0749: 1, | AR053: 2, AR033: 2, AR089: 2, AR060: 2, AR096: 2, AR052: 1, AR061: 1, AR055: 1, AR039: 1, AR104: 0 H0415: 5 |
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| : : : : : : : : : : : : : : : : : : : | Gly-9 to Gln-19, AR053: Pro-36 to Gly-41, AR089: Ala-112 to Ala-123, AR096: Asp-151 to Arg-157,AR061: Ala-199 to Asp-211, AR039: H0415 |
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| 180069, 180069, 180069, 201450, 248610, | 600309, 601676, 602522 | | | | | | | | | | | | | | | | | | | | |
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| 1, AR089: , AR060: , AR033: , AR055: | H0415: 2 | AR039: 26, AR055: 18, AR033: 15, AR053: | 14, AR052: 13, AR089: | 12, AK060: 11, AK104: 11, AR096: 10, AR061: | | H0521: 185, H0522: | 75, H0046: 37, S0360: | 25, H0580: 24, H0585: | 22, H0575: 22, L0599: | 21, H0657: 16, H0255: | .5, H0486: 15, L0664: | 15, H0641: 14, S0376: | 2, H0581: 12, L0751: | 12, H0650: 11, H0087: | 0, S0002: 10, H0638: | , H0264: 9, H0509: 9, | .0769: 9, H0445: 9, | H0656: 8, S0358: 8, | H0617: 8, L0748: 8, | .0750: 8, L0659: 7, | H0658: 7, H0672: 7, |
| 2325 Pro-70 to Cys-76. | | His-8 to Gly-18. | , Tomail . P | | <u> </u> | | | Q | O | N | | | | = | - | | | | <u> </u> | . | |
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| H0134: 7, H0555: 7, | S0031: 7, H0586: 6, | H0318: 6, H0031: 6, | H0040: 6, H0561: 6, | S0344: 6, L0372: 6, | H0682: 6, L0731: 6, | H0560: 5, L0657: 5, | S0328: 5, L0752: 5, | S0116: 4, H0550: 4, | H0036: 4, L0375: 4, | 0806: 4, L0776: 4, | ,0666: 4, H0648: 4, | .0755: 4, L0758: 4, | 10506: 4, S0354: 3, | H0250: 3, H0069: 3, | H0427: 3, H0597: 3, | H0271: 3, H0090: 3, | 3, L0662: 3, | 3, L0766: 3, | .0651: 3, L0540: 3, | 3, L0665: 3, | 30330: 3, L0743: 3, | .0362: 3, H0265: 2, | r0002: 2, H0141: 2, | H0341: 2, H0671: 2, | H0402: 2, H0637: 2, | S0132: 2, H0574: 2, | S0280: 2, H0156: 2, | H0042: 2, H0618: 2, | H0309: 2, H0050: 2, |
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| H0134: 7, | 50031:7, | H0318: 6, | H0040: 6, | S0344: 6, | H0682: 6 | H0560: 5 | S0328: 5, | S0116: 4, | H0036: 4 | 10806: 4 | L0666: 4 | L0755: 4 | H0506: 4 | H0250: 3 | H0427: 3 | H0271: 3 | H0272: 3, 1 | 1,0794: 3 | L0651: 3 | L0546: 3, 1 | S0330: 3 | L0362: 3 | T0002: 3 | H0341: | H0402: | S0132: 3 | S0280: 3 | H0042: | H0309: |
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| 10510 | 10591 | 10538 | .0364: | 0775: | 0518: | 0520: | 10670: 2, H0660: 2, | 9449 | 0777: | 0260: | 10584 | 0114: | 10254: | 10664 | 10306 | 0356: | .0676: | 6022: | H0549: 1, S6016: | 10410: 1, H0537: | 10442: 1, H0587: | .0060: 1, H0190: | L0021: 1 | T0082: | H0706: 1, H0274: | S0010: 1, S0182: | H0085: 1, H0263: | H0596: 1, H0086: | H0045: 1, L0471: 1, |
| 2: 2, F | Э. 2, E | 7: 2, E | 9: 2, L | 3. 2, L | 3: 2, L | : 2, H |): 2, F | . 2, S | : 2, L | . 2, S | 5: 1, E | 9: 1, S | 3: 1, H | I: 1, E | 2: 1, E | 5: 1, S | : 1, H | 9: 1, S | 9: 1, S |): 1, E | 2: 1, E |): 1, H | 10635: 1, L | 5: 1, T | 5: 1, E | : 1, S | 5: 1, E | 5: 1, E | 5: 1, L |
| H0013 | H0039: 2, H0591: 2, | H064 | H052 | 1,0802 | L0378: 2, L0518: 2, | S0053 | H067 | S0380 | 1074 | 1.0759: 2, S0260: 2, | H039 | H0159: 1, S0114: 1, | 1,007 | 990H | H066 | H012 | S0442 | H0619: 1, S6022: 1 | H0549 | H041(| ₩ 154 | T0060 | H063, | H0025: 1,7 | H070 | S0010 | H008; | H059(| H004 |
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| H0049: 1, H0620: 1, | H0354: 1, H0355: 1, | H0099: 1, H0188: 1, | H0252: 1, H0328: 1, | H0622: 1, H0553: 1, | H0644: 1, H0111: 1, | H0169: 1, H0598: 1, | S0036: 1, H0135: 1, | H0616: 1, H0062: 1, | H0063: 1, H0366: 1, | S0352: 1, S0448: 1, | S0472: 1, H0652: 1, | S0144: 1, S0142: 1, | S0426: 1, L0520: 1, | L0762: 1, L0763: 1, | L0770: 1, L0638: 1, | L0761: 1, L0374: 1, | L0771: 1, L0648: 1, | L0767: 1, L0387: 1, | L0381: 1, L0655: 1, | L0606: 1, L0661: 1, | L0517: 1, L0782: 1, | L0783: 1, L0809: 1, | L0544: 1, L0543: 1, | L0647: 1, L0788: 1, | L0789: 1, S0428: 1, | S0216: 1, S0374: 1, | H0691: 1, H0690: 1, | H0666: 1, H0651: 1, |
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| | 975754 | 975771 |
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| L0644: 1, L0803: 1, L0650: 1, L0775: 1, L0805: 1, L0634: 1, L0636: 1, L0782: 1, L0809: 1, H0547: 1, H0689: 1, H0682: 1, H0660: 1, S0328: 1, S0378: 1, H0704: 1, L0758: 1, H0707: 1, S0026: 1 and S0460: 1. | AR104: 6, AR053: 5, AR089: 5, AR033: 5, AR039: 4, AR055: 4, AR060: 4, AR096: 3, AR061: 1, AR052: 0 H0415: 4 | AR053: 17, AR089: 16, AR033: 12, AR060: 12, AR039: 12, AR096: 10, AR104: 9, AR055: 9, AR061: 7 H0424: 2, H0689: 2, H0318: 1, S0036: 1, L0665: 1, H0684: 1, H0521: 1 and H0555: 1. | L0659: 7, H0486: 4, |
| | Val-9 to Glu-22, AR104: Leu-48 to Gln-53, AR089: Ser-64 to Asn-74, AR039: Pro-76 to Arg-83, AR060: Thr-118 to Gly-126. AR061: | Pro-30 to Thr-35, AR053: 1' Ala-81 to Pro-86, 16, AR033 Gly-140 to Thr-151, 12, AR039 Ala-157 to Gly-162, 10, AR104 Arg-195 to Val-209, 9, AR061: Arg-236 to Ser-245. H0424: 2 H0318: 1, L0665: 1, H0521: 1 a | Thr-1 to Thr-33. |
| , | 2329 | 2330 | 2331 |
| | 3 - 1589 | 1 - 1344 | 1 - 1275 |
| | 154 | 155 | 156 |
| · | 976051 | 976207 | 976216 |
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| | 551 - 357 | 2 - 301 | | | | | | | | | | 1 - 123 | | | 179 - 652 | | | | |
| | 158 | 159 | | | | | | | | | | 160 | | | 161 | | | | |
| | 977264 | 977704 | | | | | | | | | | 978593 | | | 978812 | | | | |
| | HMMBZ81 | HSLGF32 | | | | | _ | | | | | HEEAH23 | | | HODFU73 | | | | |

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| H0422: 2, H0506: 2, | H0352: 2, H0170: 1 | 6: 1, H | 30298: 1, H0669: | H0663: 1, H0638: 1, | 8: 1, S(| S0354: 1, S0360: 1 | S0468: 1, H0208: 1 | 2: 1, H | H0549: 1, H0370: 1 | H0392: 1, H0438: 1 | 2: 1, E | F0039: 1, H0427: 1 | H0156: 1, H0253: 1 | 8: 1, E | 10251: 1, H0597: | 10546: 1, H0046: | H0457: 1, H0150: | H0009: 1, H0050: 1 | .0471: 1, H0620: 1 | H0015: 1, N0007: 1 | H0201: 1, S0048: 1, | S0388: 1, S0051: | H0083: 1, H0267: | H0271: 1, H0398: | H0188: 1, H0328: | H0039: 1, H0622: | 70006: 1, H0604: | 4: 1, F | H0166: 1, L0456: 1 |
| H042 | H035 | H055 | 8029 | H066 | S041 | S035 | S046 | S013 | H054 | H035 | H059 | T003 | H015 | H031 | H025 | H054 | H045 | H00H | 1047 | H001 | H020 | S038 | H008 | H027 | H018 | H003 | 7000 | H0424: 1 | HOI |
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| , H0038: 1, H0551: 1, H0494: 1, H0494: 1, L0369: 1, L0769: 1, L0769: 1, L0794: 1, L0794: 1, L0794: 1, H0665: 1, H0665: 1, H0665: 1, H0665: 1, L0665: 1, L0792: 1, L0665: 1, L0665: 1, L0665: 1, L0665: 1, L0792: 1, L0793: 1, L0793: 1, L0796: 1, L1, L0796: 1 | AR089: 2, AR060: 2, AR033: 2, AR096: 1, AR061: 1, AR039: 0, AR104: 0, AR055: 0, AR053: 0 H0261: 1, H0370: 1, H0259: 1, H0013: 1, |
|--|---|
| | Ser-11 to Gly-21, AR089: Cys-47 to Leu-61, AR033: Ser-82 to Tyr-88, AR061: Cys-182 to Tyr-187, AR104: Trp-268 to Asp-285. AR053: H0261 |
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| H0510: 1, S0036: 1, H0100: 1, L0771: 1, L0659: 1, H0666: 1, L0779: 1 and L0758: 1. | H0415: 1 and H0414: 1. | AR096: 3, AR033: 2, AR053: 2, AR059: 2, AR089: 2, AR039: 2, AR060: 2, AR104: 1, AR061: 1, AR055: 1, AR052: 0 L0766: 3, L0777: 3, L0768: 2, L0748: 2, L0768: 2, L0748: 2, L0757: 2, L0759: 2, L0596: 2, L0769: 1, H0251: 1, H0328: 1, H0615: 1, H0428: 1, H0614: 1, L0763: 1, L0666: 1, L0666: 1, L0666: 1, L0666: 1, L0751: 1, H0423: 1 and H0506: 1. | H0618: 12, H0052: 6, L0439: 6, H0253: 5, L0665: 4, H0013: 3, L0766: 3, L0775: 3, L0664: 3, L0742: 3, |
| · | 2345 Lys-10 to Gly-21. | Trp-1 to Lys-6. | Thr-1 to Asp-12, Arg-27 to Asp-35, Arg-84 to Asp-89, Leu-93 to Thr-99, Pro-104 to Lys-113, |
| | 2345 | 2346 | 2347 |
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| .0748: 3, L0758: 3, | 10556: 2, H0685: 2, | S0040: 2, H0069: 2, | H0599; 2, H0581: 2, | H0327: 2, H0545: 2, | HO571: 2, H0617: 2, | H0135: 2, H0494: 2, | H0509: 2, L0783: 2, | .0809: 2, L0438: 2, | 10660: 2, L0754: 2, | .0599: 2, H0422: 2, | H0265: 1, L0785: 1, | H0484: 1, S0418: 1, | S0420: 1, H0580: 1, | S0045: 1, H0392: 1, | H0600: 1, H0574: 1, | H0256: 1, L0622: 1, | H0486: 1, H0250: 1, | H0575: 1, H0251: 1, | H0544: 1, H0050: 1, | F0010: 1, H0188: 1, | H0213: 1, H0038: 1, | H0616: 1, H0087: 1, | H0561: 1, S0382: 1, | H0132: 1, L0762: 1, | L0770: 1, L0638: 1, | L0761: 1, L0648: 1, | L0662: 1, L0803: 1, | L0651: 1, L0806: 1, | L0659: 1, L0791: 1, |
| Thr-129 to Asp-137, L0748: 3, L0758: 3, | Leu-265 to Thr-288. H0556: 2, H0685: 2, | <u> </u> | <u>;;;</u> | <u> </u> | <u>i4i</u> | <u>i-L-i</u> | <u>. 114</u> | <u>.=</u> | <u> </u> | <u>.</u> | <u> </u> | <u> </u> | <u>. U1</u> | | H | | , | | | | | | | | | | | | |
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| | 102770, 201810, 601414, 601691, 601691, 601691, 601691, 601718, | | · | 214400, 600415, 601653, 601653, 602476 |
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| : | 1p11.1-13.1 102770, 201810, 601414, 601691, 601691, 601691, 601691, 601718, | | | 8q13.3 |
| H0682: 1, H0539: 1, H0518: 1, H0521: 1, H0436: 1, L0741: 1, L0743: 1, L0757: 1, S0031: 1, L0595: 1, H0542: 1 and H0423: 1. | H0063: 1 and H0494: 1. | H0087: 2, H0660: 1 and H0672: 1. | H0686: 1, H0685: 1 and S0053: 1. | L0751: 6, L0588: 6, L0748: 5, L0758: 5, S0007: 4, S0438: 4, L0763: 4, L0776: 4, L0759: 4, L0604: 4, L0594: 4, L0362: 4, S0358: 3, S0410: 3, H0575: 3, H0617: 3, S0440: 3, L0775: 3, L0809: 3, S0374: 3, |
| | | | Asn-1 to Lys-6. | Ala-1 to Ala-12, L0751: 6, L0588: 6 Cys-57 to Tyr-65, L0748: 5, L0758: 5, Glu-76 to Asp-82, S0007: 4, S0438: 4, Asp-110 to Pro-126, L0759: 4, L0604: 4, Cys-129 to Ala-139, L0594: 4, L0362: 4, Lys-147 to Pro-172, S0358: 3, S0410: 3, Pro-182 to Asp-188, H0575: 3, H0617: 3, Arg-199 to Met-205, S0440: 3, L0775: 3, L0742: 3, H0656: 2, L0742: 3, H0656: 2, |
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| S0360: 2, S0278: 2, | H0251: 2, H0408: 2 | 70023: 2, T0006: 2, | .0067: 2, H0509: 2, | ,0646: 2, L0766: 2, | .0381: 2, L0774: 2, | .0806: 2, L0526: 2, | .0518: 2, L0665: 2, | H0689: 2, H0658: 2, | S0378: 2, H0710: 2, | .0754; 2, L0750; 2, | .0731: 2, L0590: 2, | .0591: 2, L0485: 2, | H0543: 2, H0265: 1, | S6024: 1, H0657: 1, | S0212: 1, H0661: 1, | H0663: 1, H0638: 1 | S0420: 1, S0354: 1, | S0376: 1, S0408: 1, | S0132: 1, H0393: | H0282: 1, H0299: | H0333: 1, H0643: 1 | H0574: 1, L0623: 1 | H0486: 1, T0060: | H0250: 1, T0115: 1 | T0110: 1, H0530: | H0012: 1, H0373: 1 | H0030: 1, H0553: 1 | H0673: 1, H0674: |
| S = | 1 == | <u>.</u> F | | <u></u> | | 닏 | ᄇ | <u>بىر</u> | <u>v</u> | | _= | _= | . <u> </u> | <u>.v.</u> | <u> </u> | | | <u> </u> | <u></u> | | | | | | | | | |
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| H0708: 1, H0090: 1, H0372: 1, H0412: 1, H0512: 1, H0412: 1, H0512: 1, S0370: 1, S0372: 1, H0529: 1, L0529: 1, L0529: 1, L0529: 1, L0539: 1, L0538: 1, L0538: 1, L0538: 1, L0538: 1, L0663: 1, H0659: 1, H0539: 1, S0330: 1, H0539: 1, S0330: 1, H0539: 1, S0330: 1, H0539: 1, L0747: 1, L0753: | AR096: 12, AR052: 11, AR053: 10, AR033: 10, AR089: 9, AR055: 9, AR104: 8, AR060: 8, AR061: 5, AR039: |
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| | L0809: 7, H0658: 6, | .0748: 6, S0222: 5, | .0794: 5, L0776: 5, | .0756: 5, L0752: 5, | 0731: 5, L0770: 4, | 0662: 4, L0743: 4, | 0439: 4, L0751: 4, | 0754: 4, L0747: 4, | ,0759; 4, H0013; 3, | .0769: 3, L0805: 3, | .0789: 3, L0664: 3, | .0740: 3, L0777: 3, | 0753: 3, L0758: 3, | H0333: 2, H0052: 2, | H0545: 2, H0428: 2, | .0483: 2, L0455: 2, | H0509: 2, L0763: 2, | .0771: 2, L0803: 2, | .0804: 2, L0806: 2, | .0527: 2, L0783: 2, | .0666: 2, L0663: 2, | S0152: 2, S0146: 2, | .0744; 2, L0745: 2, | ,0603: 2, H0686: 1, | S0116: 1, H0255: 1, | S0418: 1, S0408: 1, | H0645: 1, H0393: 1, | .0717: 1, H0351: 1, | H0370: 1, H0574: 1, |
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| 1,000 | L0/8/: 1, L0438: 1, L.0592: 1. | H0685: 1, L and H0684: 1 | Arg-1 to Ile-7, L0766: 5, Gly-22 to Lys-42, L0750; 4, Ser-52 to Glu-59, L0769: 2, Lu-80 to Asp-87, L0769: 2, Lys-107 to Thr-115, H0547: 2, Trp-123 to Glu-131, L0752: 2, Tyr-148 to Glu-155. L0590: 2, H0624: 1, H0549: 1, H0549: 1, L0157: 1, H0051: 1, L0774: 1, L0774: 1, L0665: 1, L0653: 1, L0657: 1, L0653: 1, L0657: 1, L0666: 1, L0791: 1, L0780: |
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| L0731: 1, L0758: 1, H0595: 1, L0592: 1, H0653: 1, H0665: 1 and H0422: 1. | H0150: 26, S0003: 24, S0144: 14, S0278: 12, | S0344: 12, L0748: 12, S0358: 10, H0046: 10. | H0620: 10, S0214: 10, | .0740: 9, H0521: 8, .0588: 8, H0545: 7 | 0754: 7, H0575: 6, | 10494: 6, S0126: 6, | 10662: 5, H0031: 5, | S0142: 5, L0752: 5, | S0360: 4, H0309: 4, | H0012: 4, H0687: 4, | H0163: 4, H0038: 4, | 10040: 4, H0672: 4, | .0744: 4, L0755: 4, | .0758: 4, L0599: 4, | S0212: 3, H0580: 3, | H0550: 3, T0082: 3, | 10544: 3, H0024: 3, | 10266: 3, H0428: 3, | 10616: 3, T0067: 3, | .0519: 3, L.0532: 3, | H0689: 3, S0380: 3, | .0731: 3, S0026: 3, | H0624: 2, S0040: 2, |
| <u>, , , , , , , , , , , , , , , , , , , </u> | | Pro-119 to Ser-126, S0344: 12, L0748: 12, Gln-162 to Gln-167, S0358: 10, H0046: 10, | <u>:</u> | <u>.</u> | | <u> </u> | <u> </u> | | S | | <u>E</u> . | <u> </u> | 브. | | S | 豆 | 产 | 正 | 正 | ם. | 正 | ᆸ | H |
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| H0255: 2 | H0431: 2 | H0427: 2 | H0599: 7 | H0581: 2, | H0530: 2 | L0483: 2 | H0090: | H0412: | H0647: 2, 1 | 10666: | H0547: | H0658: | S0044: | S0027: | L0747: | 1.0757: | H0445: | 10090: | H0686: | H0583: | L0785: | S0282: 1, | H0661: | S0348: | L0005: 1, | S0354: 1, | S0007: 1, | S0046: | H0455 |
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| 1 | 10486: 1, T0040: 1, | r0060: 1, H0013: 1, | H0069: 1, H0635: 1, | H0156: 1, H0042: 1, | H0036: 1, H0037: 1, | 30346: 1, H0310: 1, | H0251: 1, H0596: 1, | 0597: 1, H0231: 1, | H0050: 1, L0471: 1, | H0099: 1, H0594: 1, | H0267: 1, S0318: 1, | H0364: 1, H0328: 1, | 0622: 1, H0644: 1, | H0063: 1, H0063: 1, | • | H0059: 1, H0625: 1, | S0440: 1, H0646: 1, | H0649: 1, S0210: 1, | L0762: 1, L0769: 1, | 0796: 1, L0761: 1, | 0773: 1, L0768: 1, | Ţ. | ,0803: 1, L0804: 1, | .0653: 1, L0527: 1, | .0657: 1, L0543: 1, | H0519: 1, S0122: 1, | 0365: 1, H0684: 1, | H0659: 1, H0648: 1, | 3228: 1, S0146: 1, |
| H | <u>H</u> | Ē | H | H | H | <u>x</u> | H | <u> </u> | <u>H</u> | H | H | <u>E</u> | <u> </u> | H | <u> </u> | <u>H</u> | <u>S</u> | H | <u> 1</u> | <u>a</u> | <u> </u> | | <u>.</u> | <u>.</u> | <u></u> | Œ. | <u> </u> | <u> </u> | S |
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| | 180105, 190900, 222800, 246900 |
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| • | 7q32 |
| H0448: 1, S0432: 1, S3014: 1, S0028: 1, S0032: 1, L0751: 1, L0753: 1, L0753: 1, L0596: 1, L0589: 1, L0589: 1, L0603: 1, S0011: 1, H0668: 1, H0653: 1, H0652: 1, H0423: 1, H0422: 1, S0458: 1, H0506: 1 and H0293: 1. | L0809: 10, H0150: 4, L0769: 4, L0804: 4, L0757: 4, H0617: 3, L0779: 3, H0662: 2, L0005: 2, S0444: 2, H0545: 2, H0135: 2, H0494: 2, L0803: 2, L0783: 2, L0663: 2, L0773: 2, L0751: 2, L0777: 2, H0484: 1, H0661: 1, S0420: 1, S0354: 1, S0358: 1, H0619: 1, H0581: 1, H0123: 1, H0309: 1, H0594: 1, S0312: 1, H0594: 1, S0312: 1, |
| : | Gly-1 to His-11, Pro-26 to Ser-34, Gly-50 to Glu-67, Gly-86 to Pro-91. |
| | 2357 |
| | 16 - 372 |
| | 182 |
| | 982032 |
| | HOVJY54 |

| | 138190, 254210, 271900, 600179, 600977, 601202, | |
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| | 17p13 | |
| H0033: 1, H0424: 1, H0213: 1, H0316: 1, H0163: 1, H0087: 1, H0412: 1, H0089: 1, H0412: 1, H0089: 1, S0438: 1, S0144: 1, S0344: 1, L0770: 1, L0761: 1, L0800: 1, L073: 1, L0662: 1, L0651: 1, L0379: 1, L0659: 1, H0520: 1, H0521: 1, H0696: 1, S0206: 1, L0747: 1, L0752: 1, L0601: 1, H0667: 1, H0542: 1 and H0667: 1, H0542: 1 and | H0510: 1 | AR033: 3, AR061: 3, AR096: 3, AR089: 3, AR055: 2, AR060: 2, |
| | Pro-37 to Ser-45, Asp-64 to Thr-69, Asp-151 to Gln-157, Arg-191 to Lys-196. | Gly-10 to Gly-16, Pro-25 to Gly-30. |
| | 2358 | 2359 |
| | 1 - 756 | 19 - 1146 |
| | 183 | 184 |
| | 982042 | 982197 |
| | HLDOG74 | HE8MM52 |

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| AR039: 1, AR104: 0, AR052: 0, AR053: 0 S0414: 7, L0794: 4, H0651: 4, L0439: 3, L0749: 3, H0659: 2, L0756: 2, L0599: 2, L0756: 2, L0599: 2, H0657: 1, H0645: 1, S0222: 1, H0673: 1, H0673: 1, H0673: 1, L0564: 1, S0438: 1, L0764: 1, L0759: 1, L0759: 1, L0759: 1, L0759: 1, L0759: 1, L0759: 1, L0779: 1, L0759: 1, L0759: 1, L0759: 1, L0768: 1, L0768: 1, L0769: 1, L0769: 1, L0769: 1, L0779: 1, L0581: 1, L0769: 1, L0569: | L0766: 5, L0749: 5, L0803: 3, L0809: 3, L0758: 3, S0007: 2, H0124: 2, H0135: 2, L0771: 2, L0744: 2, L0779: 2, L0747: 2, L0779: 2, L0600: 2, H0556: 1, S0116: 1, S0444: 1, H0393: 1, H0351: 1, L0118: 1, |
| | Cys-1 to Gly-6. |
| | 2360 |
| | 2 - 949 |
| | 185 |
| · | 982465 |
| | HJBCC19 |

| - | 300031, | 300044, | 300048, | 300049, | 300049, | 300055, | 300100, | 300100, | 300104, | 300126, | 301201, | 301590, | 302060, | 302060, | 302060, | 302060, | 302960, | 303700, | 303800, | 303900, | 304800, | 305900, |
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| | Xq28 | | | | ··- | | | | | | | | | | | | | | | · | | |
| H0038: 1, H0040: 1, T0042: 1, S0426: 1, L0763: 1, L0662: 1, L0775: 1, L0776: 1, L0659: 1, E0647: 1, L0666: 1, H0670: 1, L0439: 1, L0752: 1, L0595: 1 and H0721: 1. | H0328: 1, H0615: 1, | L0804: 1 and H0677: 1. | | | | | | | | | | | | | | | | | | | • | |
| | Val-50 to His-55, | Ser-75 to Cys-81, | Lys-98 to Lys-104. | | | | - | | | | | | | | | · | | | | | - | |
| | 2361 | | | | | | | | | | | | | | | | | | | | | |
| | 3 - 899 | | | | | | - | | • | - | | | | | | | | • | | | | |
| | 186 | | | | | | | | | | | | | | | | | | | | | |
| | 982618 | | | | | | | | | | | | | | | | | | | | | |
| | HODAA93 | | | | | | | | | | | | | | | | | | | | - | |

| 305900, 305900, 306700. | 306995, | 308310, | 308840, | 308840, | 308840, | 309200, | 309548, | 309620, | 309900, | 310300, | 310400, | 310460, | 310460, | 311300, | 311510, | 314300. | 314400 | 106165, | 117700, | 117700, | 150210, | 169600, | 180380, | 180380, | 180380, | 190000, | 203500, |
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| | | | | | | | | | | | | | | | | | | Pro-34 to Ser-4 | Cvs-82 to Lvs-89. | Ser-147 to Lvs | Ser-198 to Cvs-205. | () 0: 0:1-100 | | | | | |
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| 222900, 232050, 276902, 600882, 601199, 601199, 601471, | · |
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| | L0742: 11, L0439: 8, H0052: 5, L0794: 5, L0438: 5, S0222: 3, H0457: 3, H0135: 3, L0769: 3, L0768: 3, L0657: 3, L0666: 3, H0547: 3, H0423: 3, H0427: 2, H0494: 2, L0369: 2, L0662: 2, H0658: 2, L0592: 2, S0040: 1, H0650: 1, H0657: 1, L0427: 1, S0418: 1, S0358: 1, S0465: 1, H0580: 1, H0645: 1, H0580: 1, H0486: 1, L0309: 1, H0486: 1, L0309: 1, H0630: 1, H0657: 1, |
| | Gly-12 to Pro-23, Gly-41 to Thr-47. |
| | 2363 |
| · | 2342 |
| | 188 |
| | 983008 |
| | HCEHZ42 |

| | 109565, 109565, 142640, 228960, 261515, 600044 | |
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| Ţ. | 3q27 | 5: 1.11 |
| H0553: 1, S0038: 1, H0560: 1, H0538: 1, L0646: 1, L0639: 1, L0526: 1, L0783: 1, L0809: 1, L0647: 1, H0519: 1, H0670: 1, H0651: 1, H0521: 1, S0013: 1, S0028: 1, L0741: 1, L0753: 1, L0755: 1, L0731: 1, H0445: 1, L0361: 1, | H0486: 2, H0521: 2, L0748: 2, H0171: 1, H0556: 1, H0638: 1, H00351: 1, H0052: 1, H0083: 1, L0646: 1, L0794: 1, L0766: 1, L0389: 1, L0803: 1, L0375: 1, L0655: 1, H0519: 1, H0435: 1, H0666: 1, S0328: 1, S0378: 1, L0750: 1, L0777: 1, L0755: 1, L0522: 1, H0668: 1 and H0543: 1. | H0584: 1 and S0126: 1.11 |
| | Pro-16 to Gly-23, H0486 Ser-30 to Lys-38, L0748: 2 Glu-44 to Cys-50, H0556: Pro-81 to Lys-86, H0351: Gly-135 to Gly-140, H0083: Arg-167 to Thr-176, L0794: Leu-192 to Phe-201, L0389: Pro-203 to Ser-209, L0375: His-216 to Asn-224, L0527: H0519: H0519: H0593: L0592: L0592: L0592: H0543: | Ala-1 to Asn-16, Thr-65 to Thr-74. |
| | 2364 | 2365 |
| | 66 - 737 | 1 - 273 |
| | 189 | 190 |
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| | HDPVU15 | HT5GC28 |

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| 100678 | 147280, | 167000, | 173350, | 173350 | 173350, | 180020, | 600320 | 600883, | 602544 | | | | | | | | | | | | | | | | | | | | |
| 6q25.3-q26 100678, | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S0412: 19, H0657: 7, | L0748: 7, L0777: 7, | H0039: 6, H0659: 6, | | L0655: 5, L0747: 5, | | L0779: 4, L0758: 4, | L0599: 4, H0341: 3, | S0376: 3, H0497: 3, | L0471: 3, H0015: 3, | H0687: 3, H0090: 3, | L0769: 3, L0776: 3, | L0659: 3, L0517: 3, | L0664: 3, H0672: 3, | L0740: 3, L0752: 3, | L0588: 3, L0605: 3, | L0608: 3, L0362: 3, | H0686: 2, H0662: 2, | 80354: 2, 80360: 2, | H0559:-2, H0098: 2, | H0318: 2, H0545: 2, | H0644: 2, L0455: 2, | H0135: 2, H0038: 2, | S0002: 2, L0646: 2, | L0764: 2, L0803: 2, | L0375: 2, L0666: 2, | S0330: 2, H0539: 2, | S0152: 2, H0436: 2, | L0755: 2, L0731: 2, | L0759: 2, S0434: 2, |
| Arg-21 to Gly-28, | Pro-30 to Ser-36, | Arg-54 to Arg-61, | Gln-125 to Gly-130, | Ala-140 to Gln-145. | | | | | | | | | | | | | | | | | | - | | | | | | | |
| 2366 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 55: 2, | 55: 1, 12: 1, | 63: 1, | 6: 1, | 8: 1, | 19: 1, | 51: 1, | 70: 1, | 43: 1, | 85: 1, | 13: 1, | 99: 1, | 04: 1, | 46: 1, | 49: 1, | 251: 1, | 546: 1, | 123: 1, | 56: 1, | 266: 1, | 03: 1, | 183: 1, | [42: 1, | 332: 1, | 674: 1, | 708: 1, | 163: 1, | 412: 1, | 623: 1, |
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| H0543: 2, L0465: 2, | H0170: 1, H0265: 1 H0556: 1, T0002: 1 | H0656: 1, H0663: 1 | S0348: 1, S035 | S0444: 1, S0408: 1 | S0046: 1, H0619: 1 | H0393: 1, H03 | H0431: 1, H0370: 1, | H0586: 1, H06 | H0257: 1, H04 | T0060: 1, H00 | H0069: 1, H05 | H0575: 1, H00 | S0010: 1, S0346: 1 | H0374: 1, S00 | H0052: 1, H03 | H0309: 1, H0546: 1, | H0046: 1, H0 | S0051: 1, H03 | H0510: 1, H0266: 1 | S0250: 1, S00 | H0615: 1, L04 | H0031: 1, LO | L0055: 1, HO | H0673: 1, H0674: 1, | H0124: 1, H0 | H0316: 1, H0163: | H0616: 1, H0412: | H0413: 1, H0623: 1 |
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| 041: | 4.0.1 | 132: | 641: | 426: 1 | 369: | 371: | 761: | .: 800: | 521: | L0794: 1 | L0522: 1 | 654:] | 527: 1 | 647:] | 374: 1 | .689 | 9660: | 378: 1 | 168: | 012: | S0028: 1 | 750: 1 | 757: 1 | L0591: 1 | L0361: 1, | 653: | 242: 1 | 423: | |
| 1, TO | 1, S0 | 1, HC | 1, H0 | 1, SQ | 1, LC | 1, 10 | 1, LO | | | | 1,10 | 1, 13 | 1,10 | 1,10 | 1, S0 | 1, H | 1, HC | 1, S0 | 1, S0 | 1, S3 | 1, SQ | 1,10 | | 1,10 | 1,5 | 1, HO | 1, SO | 1, HC | ႕ |
| H0100: 1, T0041: 1 | F0042: 1, S0440: 1 | 0509: | 0150: | 3422: | 0529: | L0520: 1, L0371: 1, | .0796: 1 | .0772: | .0374: | .0364: | .0766: 1 | 3805: | 9090 | 0558: | 0789: | 0519: | H0658: 1, H0660: 1, | 328: | H0521: 1, S0168: | 0555: | 30037: 1, | .0439: 1, 1 | .0756: 1,] | 50260: 1, | L0593: 1,] | S0026: 1, | S0192: 1, S0242: 1, | 0542: | H0422: 1. |
| H | Ĕ | 耳 | <u>x</u> | <u> </u> | 耳 | ĭ | i | i | 크 | | <u> </u> | <u> </u> | 그 | 걸 | <u> </u> | I | 正 | <u> </u> | 王 | Ĭ | <u>8</u> | 그 | 그 | <u>8</u> | <u> </u> | <u>8</u> | <u>x</u> | <u> </u> | 茁 |
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| 113721, 247200, | 600059, 601545 | | | <u>.</u> | | | | | | | | | | | | | 24 | | | | | | | | | | |
| H0360: 12, L0747: 10, 17p13.3 ,0748: 7, S0007: 6, | .0731: 6, L0769: 5, | 0740; 4, L0751; 4, | 0750: 4, L0779: 4, | ,0471: 3, L0776: 3, | .0526: 3, L0666: 3, | .0439: 3, H0686: 2, | S0408: 2, H0625: 2, | .0639: 2, L0646: 2, | .0768: 2, L0774: 2, | .0655: 2, L0542: 2, | ,0790; 2, H0659; 2, | H0134: 2, L0777: 2, | .0755: 2, H0170: 1, | 20002: 1, H0685: 1, | H0295: 1, S0114: 1, | H0663: 1, H0125: 1, | S0444: 1, S0360: 1, | H0580: 1, S0046: 1, | H0351: 1, H0331: 1, | ,0623: 1, H0244: 1, | H0156: 1, T0048: 1, | H0052: 1, H0083: 1, | H0266: 1, H0328: 1, | H0031: 1, H0038: 1, | H0412: 1, T0041: 1, | S0438: 1, S0440: 1, | .0520: 1, L0371: 1, |
| Glu-12 to Arg-25, H03 1 eu-36 to Glv-41. L0748 | <u></u> | 1074 | L075 | L047 | 1052 | L043 | S040 | 1063 | 1076 JL076 | 1065 | 1079 | H01. | 101 | 1000 | H02 | 90H | S04 | H05 | E0H | 907 | HOI |)OH | HOZ | OH | ΌΗ — | 204 | 170 |
| 2367 | - | | <u> </u> | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0770: 1, L5575: 1, L0761: 1, L0667: 1, L0764: 1, L0771: 1, L0662: 1, L0794: 1, L0803: 1, L0775: 1, L0375: 1, L0658: 1, L0789: 1, L0532: 1, L0665: 1, S0374: 1, H0693: 1, S0126: 1, H0684: 1, H0660: 1, S0330: 1, H0521: 1, L0742: 1, L0743: 1, L0758: 1, L0757: 1, L0758: 1, L0759: 1, L0758: 1, L0759: 1, L0758: 1, L0759: 1, L0758: 1, L0759: 1, L0759: 1, L0592: 1, H0665: 1, H0543: 1 and H0665: 1, H0543: 1 and | S0212: 1, H0592: 1 and H0052: 1. | L0779: 3, S0010: 2, H0581: 1, H0081: 1, L0770: 1, L0794: 1, H0689: 1, H0666: 1, S0330: 1, L0593: 1, S0424: 1 and H0506: 1. | L0518: 6, L0752: 6, |
| | | Pro-27 to His-33. | Glu-4 to Gly-12, Gly-15 to Lys-21, |
| | 2368 | 2369 | 2370 |
| | 1047 - 727 | 1 - 690 | 2 - 547 |
| | 193 | 194 | 195 |
| · | 985280 | 985323 | 985401 |
| · | HMVAW42 | HAGDF03 | HOPKI29 |

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| Lys-53 to Leu-59, L0588: 6, L0747: 5, | Ala-113 to Asp-118, L0758: 5, S0116: 4, | Glu-137 to Met-143, L0769: 4, S0360: 3, | Thr-164 to Lys-170, H0599: 3, H0620: 3, | Pro-175 to Glu-180. H0059: 3, L0766: 3, | L0775: 3, L0743: 3, | L0731: 3, L0757: 3, | H0543: 3, S0040: 2, | T0049: 2, S0212: 2, | H0305: 2, S0356: 2, | S0358: 2, S0045: 2, | S0278: 2, L0623: 2, | S0003; 2, H0031: 2, | H0412; 2, H0646; 2, | S0142: 2. L0763: 2, | L0764; 2, L0774; 2, | L0776: 2, L0659: 2, | L0789: 2, L0666: 2, | S0126: 2, H0648: 2, | H0694: 2, S3014: 2, | L0754: 2, L0755: 2, | H0445: 2, L0599: 2, | S6024: 1, H0650: 1, | L0808: 1, H0341: 1, | H0484: 1, H0402: 1, | H0638: 1, S0348: 1, | S0376: 1, S0444: 1, | H0440: 1, H0640: 1, | H0409: 1, H0586: 1, | L0586: 1, S0280: 1, |
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| .0021: 1. S0010: 1. | S0665: 1, H0318: 1, | H0581: 1, H0251: 1, | .0040: 1, H0231: 1, | H0545; 1, L0471: 1, | H0012: 1, H0024: 1, | 14: 1, H0373: 1, | H0051: 1, S0025: 1, | .66: 1, H0267: 1, | H0288: 1, S0022: 1, | S0214: 1, H0112: 1, | H0405: 1, H0169: 1, | S0364: 1, S0366: 1, | H0090: 1, H0087: 1, | 12: 1, T0041: 1, | H0494: 1, H0509: 1, | S0144: 1, S0422: 1, | 70: 1, L0373: 1, | L0768: 1, L0364: 1, | L0650: 1, L0784: 1, | 27: 1, L0657: 1, | .0665: 1, S0052: 1, | S0374: 1, S0122: 1, | H0689: 1, H0684: 1, | H0659: 1, S0328: 1, | 21: 1, S0406: 1, | H0555: 1, S0027: 1, | .0740: 1, L0749: 1, | .0759: 1, H0444: 1, | .0485: 1, L0604: 1, |
| 007 | 90S | H05 | 100 | H05 | 00H | H00 | 00H | H02 | H02 | 802 | H0H | <u>803</u> ¢ | 00H | S01. | H04 | S01 ² | 1.07 | 1076 | T06 | 105 | <u> </u> | S037 | 90H | 90H | .50H | H05: | 1007 1007 | L075 | . L048 |
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| | 126600, 126600, 136435, 160980, 600678 | |
| | 2p16 | |
| L0366: 1, H0668: 1, H0653: 1, S0192: 1 and | T0202: 1. T0471: 2, H0561: 2, H0543: 2, H0013: 1, H0090: 1, H0634: 1, H0551: 1 and H0560: 1. | ARO61: 3, AR089: 3, AR096: 3, AR039: 2, AR060: 2, AR033: 1, AR104: 1, AR055: 1, AR052: 0, AR053: 0 L0751: 6, H0659: 4, H0657: 2, L0764: 2, L0655: 2, H0682: 2, L0749: 2, H0265: 1, H0521: 2, L0743: 2, L0749: 1, S0134: 1, H0255: 1, H0638: 1, H0659: 1, S0376: 1, H0659: 1, H0648: 1, H0659: 1, H0648: 1, H0669: 1, H0661: 1, H0581: 1, H0661: 1, H0561: 1, H0661: 1, H0561: 1, H0641: 1, H0551: 1, H0443: 1, |
| | Asp-23 to Ser-29, Lys-36 to Ala-48, Phe-66 to Arg-74, Gly-92 to Thr-98, Arg-137 to Asp-142, | |
| | 2371 | 2372 |
| | 391 - 1293 | 1144 - 602 |
| | 196 | 197 |
| | 085580 | 986078 |
| | HAJCA11 | HWAHA11 |

| | | 165500, 600700 |
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| | | 3928 |
| L0769: 1, L0775: 1, L0776: 1, L0657: 1, L0664: 1, H0658: 1, H0670: 1, H0648: 1, S0378: 1, L0779: 1, L0731: 1, L0601: 1 and H0423: 1. | L0717: 2, H0660: 2, S0420: 1, S0376: 1, H0393: 1, H0013: 1, H0266: 1, H0038: 1, H0529: 1, L0800: 1, L0794: 1, L0766: 1, L0657: 1, L0666: 1, H0658: 1, H0626: 1, L0759: 1, H0655: 1, | · |
| TTTH X TH | Glu-27 to Thr-33. I SC HH | Ser-2 to Gly-7, L0439: 10, L0740: Tyr-18 to Phe-26, L0794: 7, L0805: 7, Lys-39 to Gly-57, L0438: 6, H0539: 6, Gly-100 to Pro-106, L0748: 6, L0754: 5, Asn-109 to Ser-116, L0769: 4, L0776: 4, Tyr-119 to Ile-125, H0040: 3, H0100: 3, Pro-151 to Phe-157. H0040: 3, H0100: 3, L0595: 3, H0624: 2, H0170: 2, H0656: 2, S0045: 2, H0013: 2, S0045: 2, L0774: 2, L0766: 2, L0774: 2, L0766: 2, L0774: 2, |
| | 2373 | 2374 |
| · . | 2 - 1477 | 1 - 609 |
| : | 198 | 199 |
| | 986158 | 986165 |
| | HSAMI43 | HNFJH73 |

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| H0670: 2, H0648: 2, L0753: 2, L0731: 2, L0759: 2, L0589: 2, H0686: 1, S0040: 1, S0342: 1, L0005: 1, H0431: 1, H0333: 1, H0485: 1, H0486: 1, H0046: 1, H0009: 1, H00271: 1, H0012: 1, H00271: 1, H0012: 1, H0591: 1, H0039: 1, L0764: 1, L0770: 1, L0777: 1, L0661: 1, L0777: 1, L0779: 1, L0777: 1, L0757: 1, S0031: 1, H0445: 1, H0595: 1, L0599: 1, | L0663: 2, H0556: 1, H0686: 1, L0717: 1, L0764: 1, L0794: 1, L0656: 1, L0665: 1, |
| | Val-15 to Pro-21, Leu-56 to Gln-64. |
| | 2375 |
| | 57 - 248 |
| | 200 |
| | 986328 |
| | HNTCH03 |

| | 113721, 247200, 600059, 601545 |
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| | 17p13.3 |
| S0374: 1, H0519: 1, H0659: 1, H0648: 1, L0748: 1, L0759: 1, S0436: 1 and 1,0608: 1 | L0750: 12, L0747: 7, H0543: 7, L0748: 6, L0764: 3, H0539: 3, H0657: 2, L0785: 2, S0358: 2, H0657: 2, L0766: 2, L0775: 2, L0766: 2, L0666: 2, L0666: 2, L0666: 2, L0663: 2, L0668: 2, H0658: 2, H0670: 2, L0438: 2, H0643: 1, L0808: 1, H0624: 1, S0342: 1, H0631: 1, H0438: 1, H0631: 1, H0649: 1, H0604: 1, H0649: 1, L0763: 1, L0769: 1, L0769: 1, L0769: 1, L0769: 1, L0761: 1, L0772: 1, L0641: 1, L0772: 1, L0641: 1, L0772: 1, L0641: 1, L0772: 1, L0641: 1, L0773: 1, L0662: 1, L0662: 1, L0773: 1, L0662: 1, L0773 |
|) N | Val-36 to Gly-52, L0750: 12, L0747: Asp-140 to Ser-148, H0543: 7, L0748: 6, Ser-158 to Thr-163, L0764: 3, H0539: 3, Arg-168 to Ala-175, H0657: 2, L0785: 2, Glu-196 to Arg-205, S0358: 2, H0266: 2, Ser-271 to Lys-276, H0031: 2, L0766: 2, Val-281 to Tyr-294, L0775: 2, L0783: 2, Arg-305 to Met-310, L0666: 2, L0663: 2, Gln-326 to Tyr-345, H0658: 2, H0670: 2, Phe-356 to Trp-361, L0588: 2, H0542: 1, Glu-412 to Ile-420. L0443: 1, L0808: 1, H0305: 1, L0481: 1, H0431: 1, H0438: 1, S0280: 1, L0471: 1, H0036: 1, L0471: 1, H0428: 1, L0765: 1, L0598: 1, L0763: 1, L0772: 1, L0641: 1, L0772: 1, L0641: 1, L0772: 1, L0662: 1, L0773: 1, |
| | 2376 |
| | 2 - 1321 |
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| | 986744 |
| | HSUAA20 |

| | 118504, 118504, 131242, 139320, 139320, 139320, 139320, 600281, 600281, | 112261, 176640, 176640, 176640, 236700, 601920 |
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| | 20q12-q13.2 118504, 118504, 131242, 139320, 139320, 139320, 139320, 600281, 600281, | 20p12 |
| L0378: 1, L0806: 1, L0776: 1, L0657: 1, L0659: 1, L0517: 1, L0809: 1, L0647: 1, L0532: 1, S0126: 1, H0689: 1, H0690: 1, H0659: 1, H0690: 1, L0758: 1, L0740: 1, L0754: 1, L0749: 1, L0759: 1, L0591: 1, L07608: 1, L0362: 1, | H0670: 4, S0408: 3, L0666: 3, L0665: 3, H0156: 1, H0615: 1, L0776: 1, L0527: 1, H0658: 1 and H0478: 1. | L0439: 7, L0438: 4, L0770: 3, L0809: 3, S0360: 2, H0011: 2, L0794: 2, H0672: 2, L0749: 2, L0756: 2, L0759: 2, S0046: 1, |
| | Pro-32 to Ser-37, Arg-52 to Gly-63, Lys-66 to Gly-73. | Phe-1 to Cys-10. |
| | 2377 | 2378 |
| | 809 - 1054 | 1 - 618 |
| | 202 | 203 |
| · | 986767 | 987018 |
| | HSPAD08 | HFKBA32 |

| | 113900, 126340, 126391, 130410, 134790, 138570, 173850, 258501, 600040, 602225, |
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| · | 19913.3 |
| H0437: 1, T0048: 1, S0050: 1, S0051: 1, H0687: 1, L0455: 1, H0100: 1, L0351: 1, L0769: 1, L0761: 1, L0768: 1, L0806: 1, L0659: 1, L0383: 1, L0666: 1, H0547: 1, H0539: 1, L0748: 1, L0747: 1, L0780: 1, L0731: 1, L0366: 1 and | L0751: 4, S0126: 3, H0658: 2, L0741: 2, H0171: 1, T0002: 1, S0001: 1, H0619: 1, H0574: 1, H0618: 1, H0020: 1, H0201: 1, L065: 1, H0201: 1, L0643: 1, L0794: 1, L0643: 1, L0794: 1, L0655: 1, L0659: 1, L0655: 1, L0774: 1, L0655: 1, L0778: 1, L0655: 1, L0778: 1, L0655: 1, L0778: 1, L0777: 1, L0780: 1, L0777: 1, L0780: 1, L0731: 1, L0758: 1, |
| | Val-23 to Gly-32. |
| | 2379 |
| | 50 - 745 |
| | 204 |
| | 987071 |
| | HHFLU49 |

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| 1802 <i>97</i> , 248611, 251000 | 263200, | 600211, | 600/01, | 069109 | | | | | | | | | | | | | | | | | | | | | | | |
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| L0805: 18, L0776: 16, 6p22-p21 L0751: 14, L0759: 10, | L0770: 8, L0769: 6, L0758: 6, H0351: 4, | L0803: 4, L0807: 4, | L0754: 4, H0716: 3, | S0250: 3, H0615: 3, | H0644: 3, L0791: 3, | L0793: 3, S0408: 2, | H0013: 2, H0594: 2, | H0591: 2, L0796: 2, | L0521: 2, L0662: 2, | L0794: 2, L0774: 2, | L0518: 2, L0792: 2, | L0666: 2, H0144: 2, | H0670: 2, L0740: 2, | L0779: 2, H0624: 1, | S0342: 1, H0640: 1, | H0369: 1, H0549: 1, | H0486: 1, S0280: 1, | L0021: 1, L0022: 1, | S0010: 1, L0109: 1, | H0024: 1, S0051: 1, | H0428: 1, H0622: 1, | H0032: 1, T0067: 1, | H0059: 1, L0640: 1, | L0763: 1, L0773: 1, | L0659: 1, L0809: 1, | L0788: 1, L0532: 1, | L0665: 1, H0547: 1, |
| Pro-3 to Val-18, Trp-21 to Gly-27. | | | | | | | | | | | | | | | | | | - | | | | | | | | | |
| 2380 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 164 - 850 | | | | | | | | | | | | | | | | | | | | | | | <u></u> | | | | |
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| S0126: 1, S0328: 1, | S0378: 1, S0037: 1, | L0745: 1, L0750: 1, | L0777: 1, L0780: 1, | S0434: 1, L0361: 1, | S0194: 1, S0398: 1, | S0460: 1, H0008: 1 and | H0352: 1. | L0766: 4, L0665: 4, | L0754: 3, H0013: 2, | H0052: 2, L0776: 2,. | H0144: 2, L0777: 2, | L0622: 1, H0427: 1, | S0344: 1, L0520: 1, | L0774: 1, L0775: 1, | L0527: 1, L0659: 1, | L0666: 1, H0689: 1, | H0682: 1, H0672: 1, | H0522: 1, L0741: 1, | L0750: 1, L0756: 1, | L0758: 1 and S0424: 1. | L0439: 70, L0666: 20, | L0748: 20, H0013: 15, | L0663: 15, L0740: 15, | L0754: 14, L0438: 12, | L0769: 11, L0752: 11, | H0046: 9, L0662: 9, | L0776: 9, L0665: 9, | H0547: 9, L0766: 8, | H0670: 8, H0622: 7, |
| | | | | ٠ | | | | Thr-1 to Ser-6. | | | | | | | | | | | | | Pro-4 to Pro-27, | Ala-35 to Arg-43, | Asp-56 to Val-61. | • | | | | : | |
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| 7, | 6, | 6, | 6, | 5, | 5, | 5, | 4, | 4, | 4, | 4, | 4, | 4 | 33 | .3, | . 3, | .3, | 3, | .3, | : 3, | : 3, | : 3, | . 3, | .3, | . 3, | 9: 3, | 5: 3, | 1: 2, | 5: 2, |): 2, |
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| L0770: 7, L0758: 7, | S0007: 6, H0040: 6, | L0761: 6, L0659: 6, | H0696: 6, L0753: 6, | 1,0592: 6, S0010: 5, | H0428: 5, H0144: 5, | L0742: 5, L0747: 5, | H0305: 4, S0222: 4, | H0486: 4, S0346: 4, | L0351: 4, L0768: 4, | L0650: 4, H0658: 4, | L0756: 4, L0759: | L0594: 4, L0362: 4, | H0556: 3, S0356: 3, | H0587: 3, H0574: 3, | H0575: 3, T0082: 3, | H0318: 3, S0049: 3, | H0251: 3, H0309: | H0327: 3, H0050: 3, | H0014: 3, H0688: 3, | S0036: 3, H0538: 3, | L0638: 3, L0560: 3, | L0651: 3, L0655: | L0517: 3, L0532: | L0664: 3, H0682: 3, | H0659: 3, H0539: 3, | H0521: 3, S0436: 3, | L0591: 3, H0171: 2, | H0265: 2, S0116: 2, | S0420: 2, H0580: |
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| H0393: 2, H0392: 2, | H0497: 2, L0623: 2, | H0427: 2, H0590; 2, | H0581: 2, H0052: 2, | H0620: 2, H0687: 2, | S0003: 2, H0615: 2, | H0039: 2, L0455: 2, | H0090: 2, H0591: 2, | H0413: 2, T0042: 2, | .0796: 2, L0648: 2, | .0649: 2, L0775: 2, | .0375: 2, L0809: 2, | H0689: 2, H0672: 2, | 50330: 2, S0378: 2, | S0404: 2, L0744: | .0749: 2, L0777: 2, | J0731: 2, L0596: 2, | L0599: 2, | S0026: 2, H0423: 2 | H0170: 1, L0615: | 70002: 1, H0686: 1 | H0717: 1, L0418: 1 | S0212: 1, | S0282: 1, H0664: | H0241: 1, H0638: 1, | S0358: 1, S0444: 1, | S0360: 1, S0410: 1, | F0008: 1, H0722: | H0208: 1, S0476: 1, | H0619: 1, S0300: 1 |
| 3: 2. | 7:2,1 | 7:2,1 | 31: 2, I | 20: 2, 1 | 3: 2, F | 39: 2, I | 90: 2, 1 | 13: 2, 7 | 6: 2, I | 9: 2, I | 5: 2, I | 39: 2, 1 | 0:2,5 | 4: 2, I | .9: 2, I | 1: 2, I | .0605: 2, 1 | 6: 2, F | 70: 1, 1 | 2: 1, F | [7:1,1] | .0423: 1, S | 2: 1, F | 11:1,1 | 8: 1, S | 0: 1, 5 | 8: 1, F | % : 1, 9 | 9: 1, |
| H035 | H045 | H042 | H058 | H062 | 800 | H003 | H005 | H041 | 1079 | 7007 | L037 | H068 | 8033 | S040 | 1074 | 1073 | 1060 | S002 | H017 | <u>100</u> | H071 | 1.042 | S028 | H02 | S035 | 8036 | <u>100</u> | H02 | H06 |
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| H0351: 1, S0278: 1, S6022: 1, H0261: 1, H0441: 1, H0453: 1, H0370: 1, H0455: 1, H0409: 1, H0586: 1, H0333: 1, H0642: 1, | H0632: 1, H0485: 1, T0039: 1, T0109: 1, S0280: 1, H0156: 1, L0021: 1, H0037: 1, H0618: 1, H0505: 1, | H0544: 1, H0545: 1, H0439: 1, H0150: 1, H0123: 1, H0011: 1, H0373: 1, L0163: 1, H0051: 1, S0388: 1, H0399: 1, H0354: 1, S6028: 1, H0266: 1, | S0240: 1, S0230: 1, S0214: 1, L0194: 1, H0553: 1, L0055: 1, H0169: 1, H0124: 1, H0634: 1, H0551: 1, H0634: 1, H0551: 1, H0623: 1, S0386: 1, H0623: 1, S0386: 1, H0494: 1, S0372: 1, S0440: 1, S0150: 1, |
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| H0646: 1, S0002: 1 | S0426: 1, L0598: | H0529: 1, L0762: | 1, L0371: | .5565: 1, L0667: | .0772: 1, L0641: | .0764: 1, L0773: | L0626: | .0363: 1, L0767: | .0794: 1, L0381: | .0803: 1, L0774: | L0805: | .0628: 1, L0807: | .0657: 1, L0658: | .0783: 1, L0792: | , H0725: | H0691: 1, H0520: | H0519: 1, H0690: | H0683: 1, H0435: | H0648: 1, H0651: | .0355: 1, S0328: . | $\frac{1}{2}$ | H0518: 1, S0406: 1 | S0432: 1, S0028: | .0745: 1, L0750: 1 | .0755: 1, S0031: 1 | H0444: 1, H0445: 1 | .0683: 1, S0434: | .0589: 1, L0590: 1 | .0595: 1, L0366: 1, |
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| 46: | 26: 1 | 63 | .0763: 1 | 55: | | <u>'4,</u> | .0521: 1,] | 33: | <u>¥</u> | 33:1 | .0376: 1,] | | 77: 1 | 33: 1 | 3:1 | ======================================= | 9 | 33:] | | 5:1 | | <u>~</u> | 2:1 | 5: 1 | 5: 1 | 4. | 3:1 | 9. | 5: 1 |
| 90H | 3042 | 105 | Š | .55 | 8 | Š | Š | ဗို | Š | 8 | S | 90 | 8 | 80 | .0793: 1 | 306 | 105 | £068 | 106 | 935 | 38 | 105 | 8 | 97. | 075 | \$ | 88 | 958 | 059 |
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| | | 6p21.3 |
| S0011: 1, H0667: 1, S0192: 1, S0276: 1, H0542: 1, S0462: 1 and H0506: 1, | S0250: 4, S0358: 3, N0006: 3, H0620: 3, H0014: 3, H0656: 2, H0024: 2, L0776: 2, L0750: 2, S0212: 1, H0450: 1, H0549: 1, H0050: 1, H0549: 1, H0050: 1, L0471: 1, H0050: 1, L0471: 1, H0050: 1, L0471: 1, H0050: 1, H0628: 1, H0494: 1, H0520: 1, L0790: 1, H0521: 1, S0027: 1, S0032: 1, L0759: 1, S0434: 1, L0759: 1, L0595: 1, H0485: 1, H0543: 1 and S0021: 1. | L0758: 4, L0803: 3, L0779: 3, L0794: 2, L0776: 2, L0789: 2, H0555: 2, L0748: 2, L0731: 2, H0622: 1, L0800: 1, L0809: 1, |
| <u> </u> | Glu-134 to Val-139, S0250: 4, S0358: 3, Trp-147 to Lys-161, N0006: 3, H0620: 3, Ala-163 to Pro-172. H0014: 3, H0656: 2, H0024: 2, L0776: 2, L0750: 2, S0212: 1, H0450: 1, H0549: 1, H0050: 1, H0579: 1, H0050: 1, H0579: 1, H0050: 1, H0579: 1, H0050: 1, H0579: 1, H0050: 1, H0590: 1, H0049: 1, H0590: 1, H0494: 1, H0500: 1, L0790: 1, H0520: 1, L0790: 1, H0520: 1, H0435: 1, H0520: 1, L0759: 1, S0032: 1, L0759: 1, L0593: 1, L0759: 1, H0543: 1, L0759: 1, H0 | Pro-5 to Gly-13, Gly-26 to Gly-34, Leu-49 to Glu-62, Gly-67 to Val-78. |
| | 2383 | 2384 |
| | 2 - 562 | 165 - 398 |
| | 208 | 209 |
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| | HNTNN89 | HRADQ96 |

| 142857, 142858, 150270, 167250, 170261, 177900, 201910, 217000, 235200, 235200, 256550, 600202, 600261, 601868, 602280, | |
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| L0666: 1, H0670: 1, H0648: 1, L0745: 1, L0749: 1, L0759: 1 and L0596: 1. | L0731: 29, L0662: 11, L0747: 11, S0003: 9, L0666: 9, L0779: 9, L0758: 9, L0809: 8, S0360: 7, S0132: 7, H0046: 7, L0752: 7, S0040: 6, S0358: 6, L0803: 6, L0659: 6, L0748: 6, L0777: 6, H0599: 5, L0471: 5, |
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| 664: 5 | 754: 5 |)662: 4 |)251: 4 |)641: 4 | 663: 4 | 79690: 7 | 756: 4 | 3002: 3 | :0090 | .7650 | 0774: | 3146: 3 | 3436: 3 | 0624: | (0717: | 0255: | 0280: | ,0717: | 10586: | 10036: | 10024: | 0220: | 10622: | 0366: | 10551: | 10494; | 0002: | .0772: | .0641: 2, |
| H0616: 5, L0664: 5, | J0744: 5, L0754: 5, | .0749: 5, H0662: 4, | S0476: 4, H0251: 4, | 30022: 4, H0641: 4, | .0806: 4, L.0663: 4, | 30126: 4, H0696: 4, | .0439: 4, L0756: 4, | 2, 4, I | 10411: 3, H0600: 3, | H0013: 3, H0597: 3, | H0231: 3, L0774: 3, | .0805: 3, S0146: 3, | .0759: 3, S0436: 3, | .0603: 3, H0624: 2, | H0170: 2, H0717: 2, | S0212: 2, H0255: 2, | S0418: 2, H0580: 2, | H0729: 2, L0717: 2, | 10592: 2, H0586: 2, | HO575: 2, H0036: 2, | H0590: 2, H0024: 2, | H0373: 2, S0250: 2, | H0039: 2, H0622: 2, | .0483: 2, S0366: 2, | H0038: 2, H0551: 2, | .0564: 2, H0494: 2, | S0352: 2, S0002: 2, | J0770: 2, L0772: 2, | .0800: 2, I |
| H0616 | 1.074 | L0745 | S0476 | S0022 | 0807 | S0126 | 1.0439 | 1.0362 | H041 | H001 | H023 | 1080 | 1075 | 1090 <u>7</u> | H017 | S021 | S041 | H072 | H059 | H057 | H059 | H037 | H003 | 1048 | H00. | 1.056 | S035 | 101 | 1.080 |
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| L0764: 2. L0768: 2. | L0776: 2, H0144: 2, | H0522: 2, S0044: 2, | L0745: 2, L0750: 2, | H0595: 2, L0597: 2, | L0590: 2, L0592: 2, | L0599: 2, L0785: 1, | S0001: 1, H0663: 1, | H0664: 1, H0638: 1, | 30442: 1, S0376: 1, | 30444: 1, H0637: 1, | H0735: 1, H0734: 1, | H0437: 1, H0369: 1, | 30222: 1, H0441: 1, | H0453: 1, H0331: 1, | H0574: 1, H0485: 1, | H0486: 1, T0039: 1, | - | H0156: 1, L0105: 1, | - | H0196: 1, H0234: 1, | • | H0105: 1, H0014: 1, | S0388: 1, S6028: 1, | S0318: 1, H0252: 1, | · 🖵 | H0644: 1, H0673: 1, | H0674: 1, S0364: 1, | H0708: 1, H0591: 1, | H0412: 1, H0413: 1, |
| | Ľ | <u>, </u> . | | | | H | <u>V1</u> | <u> </u> | <u> </u> | | · | <u> </u> | <u> </u> | سر | <u> </u> | | <u> </u> | <u> </u> | | <u>,</u> | <u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u> | <u> </u> | <u>01</u> | <u>.</u> | -11 | . <u></u> | - | | 1 |
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| H0100: 1, S0112: 1, | F0041: 1, H0509: 1, | H0646: 1, S0208: 1, | .0763: 1, L.0769: 1, | _0372: 1, L0771: 1, | ,0773: 1, L0648: 1, | .0521: 1, L0364: 1, | | .0379: 1, L0807: 1, | .0512: 1, L0782: 1, | .0384: 1, L0647: 1, | '88: 1, L0665: 1, | S0374: 1, L0565: 1, | 0438: 1, H0547: 1, | H0689: 1, H0683: 1, | H0684: 1, H0658: 1, | S0330: 1, S0380: 1, | L0602: 1, S0152: 1, |)13: 1, S0406: 1, | H0555: 1, H0631: 1, | S0432: 1, S0037: 1, | S3014: 1, S0027: 1, | S0028: 1, L0755: 1, | .0757: 1, H0444: 1, | .0596: 1, L0588: 1, | .0591: 1, L0485: 1, | 011: 1, S0026: 1, | S0192: 1, S0194: 1, | S0456: 1, H0506: 1 and | H0008: 1. |
| H01 | TOO | 90H | 107 | 103 | 101 | 105 | L07 | 103 | 105 | 103 | 707 100 | 803 | 104 | HOCH | HOC | 803 | 907 | <u> </u> | 100H | S04 |)S3(| <u> </u> | LOT LOT | 10, | 201 | 200 | S0. | 80 ₀ | HO |
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| 120070, 120131, 120131, 138030, 147545, 259900, 262000 | 106180, 138700, 139250, 150200, 154275, 176960, 249000, 253250 | |
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| 12936 | 17923 | |
| S0386: 1, H0670: 1 and2q36 H0444: 1. | H0549: 2, H0023: 2, H0024: 2, L0750: 2, H0624: 1, L0659: 1, L0809: 1, L0740: 1, L0747: 1 and L0731: 1. | L0766: 5, L0755: 5, L0770: 4, L0659: 4, L0750: 4, L0752: 4, S0360: 3, L0754: 3, L0740: 3, L0774: 3, L0740: 3, L0731: 3, L0759: 3, S0132: 2, H0411: 2, H0188: 2, H0413: 2, L0598: 2, L0664: 2, H0144: 2, L0664: 2, H0144: 2, L0751: 2, L0749: 2, S0194: 2, H0624: 1, H0713: 1, S0218: 1, |
| <u>н</u> | Ala-9 to Phe-15, Gly-44 to Pro-52, Pro-100 to Lys-106. | Ala-1 to Thr-9, Arg-62 to Trp-77, Arg-176 to Pro-181, I. Val-191 to Leu-198, S Lys-265 to Lys-272, I. Asn-276 to Val-283. I. I. |
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| 268 - 603 | 466 - 149 | 2 - 853 |
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| 1 0481: 1 \$0376: 1 | H0415: 1, H0586: 1, | H0587: 1, T0109: 1, | H0545: 1, H0046: 1, | H0123: 1, T0023: 1, | H0166: 1, H0038: 1, | H0551: 1, H0264: 1, | H0059: 1, T0042: 1, | H0494: 1, H0560: 1, | S0440: 1, H0529: 1, | L0762: 1, L0763: 1, | L0769: 1, L0796: 1, | _ | L0646: 1, L0800: 1, | | L0649: 1, L0803: 1, | L0661: 1, L0657: 1, | L0532: 1, S0374: 1, | H0520: 1, S0126: 1, | S0122: 1, H0659: 1, | H0658: 1, H0660: 1, | S0404: 1, S0037: 1, | S3014: 1, S0206: 1, | L0748: 1, L0747: 1, | L0756: 1, L0757: 1, | L0758: 1, S0434: 1, | S0436: 1, L0591: 1, | L0608: 1, L0595: 1 and | S0276: 1. | S0436: 10, L0803: 6, |
| | , <u>, , , , , , , , , , , , , , , , , , </u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | His-11 to Pro-18, |
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| H0046: 5, L0754: 5, | L0362: 5, L0794: 4, | L0766: 4, L0749: 4, | L0779: 4, \$0444: 3, | L0805: 3, L0527: 3, | H0648: 3, L0439: 3, | L0740: 3, L0747: 3, | L0750: 3, L0777: 3, | L0752: 3, H0671: 2, | S0360: 2, S0408: 2, | H0486: 2, L0105: 2, | T0067: 2, H0059: 2, | H0652: 2, L0770: 2, | L0641: 2, L0662: 2, | L0655: 2, L0783: 2, | L0793: 2, L0665: 2, | L0438: 2, H0520: 2, | H0435: 2, H0659: 2, | S0136: 2, L0731: 2, | L0758: 2, L0759: 2, | S0424: 2, H0717: 1, | S0402: 1, H0657: 1, | H0254: 1, S0348: 1, | S0442: 1, H0722: 1, | S0132: 1, S0476: 1, | H0640: 1, S0300: 1, | L0717: 1, S0278: 1, | S0222: 1, H0587: 1, | H0156: 1, H0575: 1, | T0082: 1, H0318: 1, |
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| Arg-40 to Asn-53. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| S0049-1 H0052: 1. | H0544: 1, H0545: 1, | H0201: 1, T0010: 1, | H0083: 1, S0003: 1, | H0328: 1, H0428: 1, | H0039: 1, H0622: 1, | .0483: 1, S0364: 1, | H0038: 1, H0551: 1, | H0264: 1, T0069: 1, | L0564: 1, T0041: 1, | H0641: 1, H0529: 1, | L0642: 1, L0764: 1, | L0771: 1, L0364: 1, | L0649: 1, L0388: 1, | L0776: 1, L0809: 1, | • | L0664: 1, H0547: 1, | H0670: 1, H0672: 1, | S0350: 1, S0406: 1, | H0478: 1, S0027: 1, | S0028: 1, L0748: 1, | L0746: 1, L0756: 1, | L0599: 1, H0542: 1, | H0423: 1, H0422: 1 and | L0697: 1. | H0255: 1, H0002: 1, | H0266: 1, L0803: 1, | H0660: 1, L0751: 1 and | L0777: 1. | H0428: 8, L0603: 2 |
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| | <u>, 114</u> | <u>بالنو</u> | <u>, 111</u> | | | <u>, </u> | . В | | | | | | | | | | | | | | | | | | Gln-10 to Lys-15, | Pro-28 to Gln-33. | · · | | Tyr-18 to Lys-23, |
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| | | H0617: 10, S0410: 8, | .0769: 7, H0038: 6, | .0439: 6, L0750: 6, | .0752: 6, L0758: 6, | \$0360: 5, L0775: 5, | S0406: 5, H0150: 4 | .0157: 4, H0620: 4, | H0087: 4, S0440: 4, | S0344: 4, L0763: 4, | S0328: 4, L0747: 4, | H0224: 3, H0484: 3, | H0402: 3, S0049: 3, | 3773:3 | .0805: 3, L0809: 3, | .0519: 3, H0670: 3, | L0731: 3, | 581: 3, | H0295: 2, H0341: 2, | S0444: 2, S0222: 2, | .0622: 2, H0253: 2, | H0309: 2, T0115: 2, | H0544: 2, H0545: 2, | H0081: 2, H0012: 2, | H0673: 2, S0036: 2, | H0616: 2, L0770: 2, | JO518: 2, H0725: 2, | S0374: 2, H0696: 2, | JOS88: 2, HUS43: 2, |
| and S0114: 1 | | 17: 10, | 9: 7, H(| 9:6,10 | 2: 6, LC |): 5, LO | 5: 5, H(| 7: 4, H(| 7: 4, SC | 4: 4, LO | 3: 4, LO | 4: 3, H | 2: 3, SC | H0708: 3, L0773: 3 | 5: 3, LO | 9: 3, HC | .0748: 3, LO | JO757: 3, LO581: 3, | 5: 2, H(| 1:2,50 | 2: 2, HC | 9: 2, TC | 4: 2, H(| 1: 2, H(| 3: 2, S0 | 5: 2, LC | 3: 2, HC | 1.2, H0 | S. 2, HU |
| and S | | H06 | L076 | 1043 | 1.075 | \$0360 | S0406 | L015' | H008 | S034 | S0328 | H022 | H040 | H070 | 1080 | 1.0519 | 10748 | 10757 | H029 | S044 | L0622 | H030 | H054 | H008 | H067 | H061 | L0518 | S0374 | 207 |
| 4.44 | y-56. | u-70, | a-91, | Ysn- | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pro-32 to Arg-44. | Pro-51 to Gly-56. | Lys-56 to Leu-70, | Gln-85 to Ala-91, | Met-123 to Asn- | | | | | | | | | | | | | | | • | | | | | | | | | • | |
| Pro-3 | Pro-5 | Lys-5 | Gln-8 | Met-1 | 133. | | | | | | | | | | | | | | | | | | | | | _ | | ٠ | |
| - | | 2392 | · · | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0615: 1, H0160: 1, H0225: 1, H0713: 1, | S6024: 1, S0430: 1, | H0656: 1, S0116: 1, | S0212: 1, F0463: 1, H0306: 1, H0638: 1, | H0125: 1, S0420: 1, | S0358: 1, S0408: 1, | H0637: 1, S0476: 1, | H0640: 1, H0411: 1, | S0278: 1, H0441: 1, | H0461: 1, H0298: 1, | H0333: 1, L0623: 1, | H0486: 1, H0427: 1, | H0156: 1, H0599: 1, | T0082: 1, T0048: 1, | H0318: 1, H0581: 1, | H0196: 1, H0597: 1, | L0738: 1, H0530: 1, | H0242: 1, H0024: 1, | H0373: 1, L0163: 1, | H0275: 1, H0188: 1, | H0284: 1, S0003: 1, | H0428: 1, H0213: 1, | H0405: 1, H0181: 1, | H0182: 1, H0606: 1, | L0055: 1, H0163: 1, | H0063: 1, T0067: 1, | H0100: 1, H0560: 1, | H0561: 1, H0647: 1, |
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| S0142: 1, L0598: 1, | | L0767: 1, L0768: 1, | L0766: 1, L0649: 1, | L0803: 1, L0774: 1, | L0375: 1, L0806: 1, | L0776: 1, L0517: 1, | L0526: 1, L0783: 1, | L0789: 1, H0144: 1, | L0438: 1, H0689: 1, | H0690: 1, H0682: 1, | H0683: 1, H0435: 1, | H0659: 1, H0648: 1, | H0521: 1, H0522: 1, | S3014: 1, S0027: 1, | L0755: 1, L0759: 1, | H0445: 1, H0343: 1, | H0595: 1, L0608: 1, | H0136: 1, S0276: 1, | H0542: 1, L0600: 1 and | H0352: 1. | S0328: 4, L0731: 3, | S0356: 2, H0013: 2, | L0794: 2, L0649: 2, | H0435: 2, L0748: 2, | L0749: 2, L0750: 2, | | | S0360: 1, H0575: 1, |
| , | | | • | | | | | | | | | | | | | | | | | | Gly-1 to Ser-20, | Phe-29 to Asn-37, | Asn-55 to Tyr-64, | Ala-69 to Asp-78, | Tyr-82 to Ala-91, | Lys-100 to Glu-122. | | |
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| | | 2q33-q34 |
| L0471: 1, \$0362: 1, H0030: 1, H0031: 1, H0068: 1, H0038: 1, H0412: 1, H0413: 1, L0768: 1, L0657: 1, L0658: 1, L0766: 1, H0144: 1, H0547: 1, S0126: 1, H0659: 1, H0660: 1, \$0027: 1, L0754: 1, L0786: 1, L0779: 1, L0755: 1 and | H0618: 1, H0081: 1, T0010: 1, H0560: 1, L0763: 1, L0803: 1 and L0790: 1. | S0212: 20, L0751: 14, L0663: 11, L0731: 11, H0083: 10, L0657: 10, L0666: 10, H0547: 10, H0550: 7, H0620: 6, L0769: 6, H0689: 6, H0123: 5, H0428: 5, L0662: 5, S0356: 4, H0059: 4, L0664: 4, H0520: 4, H0670: 4, L0581: 4, S0418: 3, L0717: 3, H0618: 3, H0494: 3, S0438: 3, |
| | Ala-12 to Asn-18. | |
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| | 988737 | 988904 |
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| L0770: 3, L0659: 3, | H0683: 3, H0660: 3, | L0747: 3, L0758: 3, | S0434: 3, H0543: 3, | H0624: 2, H0295: 2, | H0341: 2, H0662: 2, | S0358: 2, S0360: 2, | H0675: 2, S0408: 2, | H0251: 2, H0051: 2, | H0594: 2, H0687: 2, | H0615: 2, H0031: 2, | H0413: 2, H0100: 2, | L0637: 2, L0648: 2, | L0783: 2, L0665: 2, | H0658: 2, H0672: 2, | S0378: 2, S0406: 2, | L0439: 2, L0605: 2, | H0352: 2, H0170: 1, | H0686: 1, H0685: 1, | H0294: 1, S0180: 1, | S0298: 1, H0661: 1, | H0664: 1, S0420: 1, | S0442: 1, S0354: 1, | S0376: 1, H0637: 1, | H0329: 1, S0007: 1, | H0208: 1, H0645: 1, | H0549: 1, H0391: 1, | H0392: 1, H0331: 1, |
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| , T0109: 1, , H0545: 1, , H024: 1, , H028: 1, , H0606: 1, , L0772: 1, , L0772: 1, , L0772: 1, , L059: 1, 1, H0593: 1, 1, H0566: 1, 1, H0559: 1, 1, L0779: 1, 1, L0779: 1, 1, L0779: 1, 1, L0759: 1, 1, L079: 1, | AR055: 8, AR096: 4, AR053: 4, AR104: 3, AR089: 3, AR061: 3, AR039: 3, AR060: 3, AR033: 3, AR052: 1 L0777: 4, H0052; 3, L0438: 2, L0748: 2, |
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| <u>ттттт орронен органия</u> | Met-1 to Ile-6, Cys-13 to Ser-20, Asp-40 to Ser-46, Asp-48 to Ser-62, Ser-70 to Tyr-80, Glu-83 to Ser-89, Leu-108 to Ser-119, |
| | 1 - 2127 2396 |
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| Cys-138 to Trp-154, S0212: 1, S0376: 1, Glu-198 to Val-227, H0438: 1, H0318: 1, Lys-251 to Asp-264, L0471: 1, H0375: 1, Asp-407 to Glu-415, H0038: 1, H0551: 1, Ile-456 to Val-462, L0763: 1, L0764: 1, Ser-470 to His-476, L0767: 1, L0764: 1, Phe-478 to Ser-492, L0775: 1, L0805: 1, Asp-595 to Ala-603, S0044: 1, L0742: 1, Leu-638 to Leu-648, L0439: 1, L0747: 1, Lys-667 to Asp-673, L0750: 1, S0031: 1, Trp-684 to Ile-691, H0445: 1, L0590: 1 and Ser-698 to Glu-709. H0543: 1. | H0556: 17, H0305: 15, S0414: 14, L0665: 14, H0402: 12, S0360: 11, L0777: 11, L0766: 9, L0664: 9, L0662: 8, L0754: 8, S0408: 7, L0776: 7, L0666: 7, H0648: 7, S0406: 7, L0778: 7, H0422: 7, L0803: 6, L0770: 5, L0770: 5, L0770: 5, L0770: 5, L0771: 5, H0423: 5, H0423: 5, H0423: 5, H0423: 5, H0424: 5, L0771: 5, H0423: 5, H0423: 5, H04265: 4, |
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| Cys- Lys- Lys- Asp- Ile-4: Ser-4 Asn- Leu- Lys- Cys- Trp- Ser-6 | 2397 |
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| 280: 4. | 169: 4, | 672: 4, | 710: 4, | 027: 4, | 747: 4, | 341: 3, | 132: 3, |)549: 3, | 581: 3, | 3, |)483: 3, | 0063: 3, | L0769: 3, |)771: 3, | 3, | 126: 3, | 0436: 3, | 0779: 3, | 0506: 3, | (0295: 2, | 0583: 2, | 10656: 2, | 10661: 2, | 10589: 2, | 0278: 2, | 0431: 2, | ,0021: 2, | 10545: 2, | 10051: 2, |
| H0306: 4 S0280: 4 | H0644; 4, H0169; 4, | L0775: 4, H0672: 4, | S0330: 4, H0710: 4, | H0522: 4, S0027: 4, | L0744: 4, L0747: 4, | H0170: 3, H0341: 3, | H0255: 3, S0132: 3, | H0411: 3, H0549: 3, | T0060: 3, H0581: 3, | H0309: 3, H0594: 3, | H0615: 3, L0483: 3, | H0674: 3, H0063: 3, | H0494: 3, L(| L0761: 3, L0771: 3, | L0653: 3, L0809: 3, | S0374: 3, S0126: 3, | H0670: 3, H0436: 3, | L0750: 3, L0779: 3, | L0780: 3, H0506: 3, | H0624: 2, H0295: 2, | T0049: 2, H0583: 2, | H0650: 2, H0656: 2, | H0669: 2, H0661: 2, | H0663; 2, H0589; 2, | S0476: 2, S0278: 2, | S6022: 2, H0431: 2, | H0574: 2, L0021: | H0274: 2, H0545: 2, | L0471: 2, H0051: 2, |
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| H0284: 2, H0428: 2, | H0135: 2, H0090: 2, | H0591: 2, H0477: 2, | H0412: 2, H0509: 2, | S0144: 2, L0598: 2, | L0762: 2, L0638: 2, | L0521: 2, L0551: 2, | L0774: 2, L0805: 2, | L0783: 2, L0532: 2, | L0565: 2, H0690: 2, | H0435: 2, H0651: 2, | S0378: 2, S0380: 2, | L0743: 2, L0439: 2, | L0753: 2, L0757: 2, | S0434: 2, L0361: 2, | S0026: 2, H0542: 2, | H0352: 2, S0040: 1, | S0342: 1, H0713: 1, | H0717: 1, H0716: 1, | H0294: 1, S0114: 1, | S0134: 1, S0116: 1, | S0298: 1, S0282: 1, | H0662: 1, H0638: 1, | S0420: 1, S0356: 1, | S0354: 1, H0580: 1, | H0619: 1, L0717: 1, | L0394: 1, S0222: 1, | H0392: 1, H0409: 1, | H0602: 1, H0586: 1, | H0587: 1, H0497: 1, |
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| H0333: 1, H0331: | H0013: 1, H0244 | H0427: 1, H0599: | H0706: 1, S0010 | S0346: 1, H0318: 1 | H0251: 1, H0123: | H0012: 1, H0620: | T0003: 1, S0050 | H0014: 1, S0024: | H0239: 1, H0510 | H0247: 1, H0271: | H0188: 1, H0028: | S0250: 1, S0003 | H0328: 1, T0023: 1 | H0031: 1, H055 | H0628; 1, H0040; 1, | H0634; 1, H0087; | <u> </u> | H0488: 1, H0623: 1 | H0059: 1, H0561: 1 | S0440: 1, H013 | H0633: 1, H0652: | S0142: 1, S0344: | S0210: 1, H0529: 1 | L0520: 1, L064 | L0765: 1, L0648: | L0767: 1, L0794: 1 | L0649: 1, L0650: 1 | L0375: 1, L0651: 1 | L0806: 1, L0654: |
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| L0657: 1, L0656: 1, L0782: 1, L0647: 1, L0788: 1, L2269: 1, H0697: 1, H0691: 1, H0693: 1, L0352: 1, H0547: 1, H0689: 1, H0659: 1, H0688: 1, | | H0343: 1, H0595: 1, S0436: 1, L0599: 1, L0603: 1, S0192: 1, S0276: 1, S0196: 1, H0677: 1 and H0008: 1. | L0768: 5, L0766: 3, L0769: 2, L0748: 2, L0750: 2, L0758: 2, H0663: 1, S0420: 1, S0360: 1, H0675: 1, H0486: 1, H0328: 1, | L0363: 1, L0806: 1, L0809: 1, H0658: 1, L0747: 1, L0777: 1, L0731: 1 and H0352: 1. |
| , P = 1 | <u>~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ </u> | R O I O H | His-7 to Lys-14. | |
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| | 13q14.3 |
| L0777: 7, L0766: 5, L0663: 3, H0660: 3, L0752: 3, L0758: 3, H0650: 2, H0124: 2, L0646: 2, L0740: 2, H0445: 2, L0740: 2, H0445: 2, S0424: 2, H0657: 1, H0341: 1, S00358: 1, S0360: 1, S0036: 1, H0385: 1, H0069: 1, H0375: 1, H0596: 1, H0373: 1, H0596: 1, L0775: 1, L0769: 1, L0763: 1, L0768: 1, L0662: 1, L0768: 1, L0662: 1, L0768: 1, L0666: 1, L0665: 1, H0144: 1, S0126: 1, H0144: 1, S0126: 1, R0150: 1, H0648: 1, S0150: 1, H0648: 1, S0150: 1, H0648: 1, S0150: 1, H0648: 1, S0150: 1, | H0171: 1, H0341: 1, L0157: 1, H0083: 1, H0068: 1, H0038: 1, |
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| 224 | 225 |
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| HOOJB32 | HMWJJ35 |

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| H0616: 1 and L0519: 1. | L0438: 4, L0754: 4, H0521: 3, H0624: 2, S0356: 2, S0132: 2, L0806: 2, L0439: 2, L0749: 2, L0779: 2, L0749: 2, L0779: 2, L0759: 2, L0779: 2, L0759: 2, L0779: 2, L0759: 1, H0656: 1, H0656: 1, H0656: 1, H0650: 1, H0650: 1, H0670: 1, H0670: 1, H0670: 1, H0670: 1, H0662: 1, H0670: 1, H0662: 1, H0669: 1, L0774: 1, L0784: 1, L0669: 1, L0774: 1, L0784: 1, L0663: 1, H0659: 1, L0776: 1, L0663: 1, L0773: 1, L0752: 1, L0731: 1, L0660: 1, L0591: 1, L0660: | LU604: 1 and HU542: 1. |
| | Phe-2 to Cys-10. | Pro-26 to Glu-49, Asp-58 to Pro-63. |
| | 2401 | 2402 |
| | 105 - 188 | 71 - 259 |
| | 226 | 227 |
| | 9883396 | 289607 |
| | HHFIA95 | HSPSH36 |

| 133700, 133700, 150230, 190080, 190350 | |
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| H0318: 1, H0646: 1 and L0366: 1. | L0777: 10, H0616: 4, L0758: 4, L0761: 3, L0766: 3, H0648: 3, L0749: 3, L0750: 3, L0755: 3, H0318: 2, H0545: 2, H0373: 2, H0038: 2, S0438: 2, S0422: 2, L0774: 2, L0375: 2, L0657: 2, L0375: 2, L0774: 2, L0731: 2, L0774: 2, L0731: 2, L0779: 2, H0656: 1, H0294: 1, H0656: 1, L0808: 1, S0420: 1, H0486: 1, L0722: 1, H0486: 1, L0762: 1, L0763: 1, L0762: 1, L0763: 1, L0770: 1, L0769: 1, |
| Lys-14 to Glu-23, Glu-30 to Ser-43, Ser-45 to His-54, Thr-66 to Tyr-71, Pro-75 to Asp-80, Ile-98 to Thr-120, Glu-125 to Lys-133, Leu-146 to Ala-152, Ala-170 to Ile-176, Asn-180 to Cys-200. | His-8 to Ser-15, Ser-21 to Gly-32, Arg-51 to Ala-57, Phe-71 to Leu-78, Gly-87 to Glu-92. |
| 2403 | 2404 |
| 1136 - 534 | 268 - 645 |
| 228 | 229 |
| 989952 | 090066 |
| HAAAA25 | HTEMJ16 |

| L0372: 1, L0646: 1, L0767: 1, L0768: 1, L0803: 1, L0776: 1, L0658: 1, L0636: 1, L058: 1, L0666: 1, L0664: 1, L0665: 1, H0682: 1, H0658: 1, H0666: 1, S0037: 1, S0406: 1, S0027: 1, L0747: 1, L0779: 1, L0780: 1, L0753: 1 and L0757: 1. | L0748: 6, L0774: 4, L0439: 4, L0749: 4, L0764: 3, L0771: 3, L0775: 3, L0665: 3, S0408: 2, H0644: 2, L0766: 2, L0649: 2, S0374: 2, L0747: 2, S0374: 2, L0747: 2, S0374: 1, H0662: 1, H0586: 1, H0156: 1, H0494: 1, S0440: 1, H0695: 1, L0762: 1, L0761: 1, L0648: 1, L0761: 1, L0648: 1, L0803: 1, L0663: 1, H0689: 1, H0658: 1, |
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| | Glu-1 to Val-14, L0748: 6, L0774; Arg-123 to Gly-128. L0439: 4, L0749: 4, L0764: 3, L0771: 3, L0764: 3, L0771: 3, L0775: 3, L0665: 3, S0408: 2, H0644: 2, S0374: 2, L0747: 2, S0282: 1, H0662: 1, S0374: 2, L0747: 2, S0282: 1, H0662: 1, H0586: 1, H0586: 1, H0586: 1, H0586: 1, L0761: 1, L0648: 1, L0803: 1, L0804: 1, L0803: 1, L0804: 1, L0868: 1, H0688: 1, R0808: 1, R0 |
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| 5: 1, 0423: 1. | 096: , AR052: , AR033: , AR104: AR061: | 594: 2, 57: 1, 11: 1, 55: 1, 85: 1, 0759: 1. | 5126: 7, 53: 4, 66: 4, 66: 4, 78: 3, 78: 3, 78: 3, 78: 3, 78: 3, 78: 2, 74: 2, 74: 2, |
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| S042 | 1076 | L051 | 9907 | H065 | H053 | L075 | S010 | H042 | H017 | H065 | S002 | H066 | S041 | H039 | S601 | H037 | H049 | T011 | 1002 | H005 | H023 | H004 | H005 | L016 | H026 | H028 | H042 | 1000 | H055 |
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| H0628: | H0598: | H0616 | H0029 | H0561 H0647 | S0142: | 80002 | L0772 | L0771 | 10662 | 10386 | L0776: 1, | L0657 | L0659: 1, | L0542: 1 | L0666: 1, | H0593 |)690Н | H065 | H051 | H043 |)60S | S301 | 1075 | 1075 | H044 | 990H | 5024 |
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| 1 and | | :6: 7, | ທ໌ | 4, | 4, | 4. | 33 | ຕໍ | ່ຕ໌ | ω, | က် | ຕ໌ | ω, | 2, | 2, | 6 | ત્ | ર્વ | ų | ~ , | 4 | % | Ų | ų, | ં તં | · –i | <u>_</u> | 1, | 1, |
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| S0196: 1, H0423: 1 and | H0008: 1 | H061 | S0404: 5, L0747: 5, | L0779: 5, H0253: 4, | H0545: 4, L0766: 4, | S0328: 4, L0742: 4, | L0752 | S0420: 3, S0358: 3, | S0046: 3, S0278: 3, | H0592 | H0100: 3, L0769: 3, | .0665 | .0743 | H0341 | H0333 | H054 | H0594 | H0497 | .0763: 2, 1 | .0764: 2, | .0532 | H0651 | H0539 | 1,0751: 2, 1 | 30106 | H0422 | H0171: 1, H0657: | H0656: 1, S0282: | S0029: 1, H0663: |
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| | | Pro-46 to Pro-60, | Lys-108 to Ser-113, | Leu-115 to Leu-124. | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 46 to | 108 tc | 115 to | | | | | | | | | | | | | | | | | | | | | | | | | |
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| H0662: 1, H0459: 1, | S0418: 1, S0354: 1, | H0393: 1, H0351: 1, | S6016: 1, S0220: 1, | H0370: 1, H0586: 1, | 10497: 1, L0623: 1, | 70114: 1, H0069: 1, | L0021: 1, H0575: 1, | H0052: 1, H0309: 1, | H0231: 1, H0546: 1, | H0041: 1, H0009: 1, | H0050: 1, H0024: 1, | 20163: 1, H0510: 1, | H0266: 1, H0284: 1, | H0286: 1, H0688: 1, | H0428: 1, L0194: 1, | F0006: 1, H0213: 1, | H0553: 1, H0644: 1, | H0628: 1, H0181: 1, | H0598: 1, S0036: 1, | H0040: 1, H0634: 1, | H0616: 1, H0087: 1, | H0059: 1, T0041: 1, | H0561: 1, H0509: 1, | H0647: 1, S0144: 1, | S0142: 1, H0538: 1, | S0002: 1, L0520: 1, | L0772: 1, L0643: 1, | L0771: 1, L0773: 1, | L0662: 1, L0794: 1, |
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| H05: H00: 10:27 | H050 H050 H000 H000 | S003 S025 | H03 | H02 | 803 | SOI | H01 S04 | 803 | S03 H03 | HO3 | H02 | 008 | 802 | HOC | HOC | 803 | HOC |
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| H0063: 1, H0647: 1, L0763: 1, L0545: 1, L0789: 1, L0438: 1, H0519: 1, H0682: 1, H0658: 1, H0660: 1, S0332: 1, S0146: 1, S0032: 1, L0439: 1, L0751: 1, L0754: 1, L0750: 1, L0731: 1, S0242: 1, H0008: 1 and H0293: 1. | S0126: 8, S0418: 5, L0439: 5, H0551: 4, L0438: 4, L0747: 4, S0192: 4, H0556: 3, H0046: 3, L0769: 3, L0665: 3, L0731: 3, H0265: 2, S0360: 2, S0410: 2, S0360: 2, H0370: 2, H0618: 2, H0494: 2, H0560: 2, L0763: 2, L0764: 2, L0769: 2, L0547: 2, L0789: 2, L0547: 2, L0663: 2, H0520: 2, H0435: 2, S0152: 2, L0759: 2, L0596: 2, |
| | Thr-77 to Val-84, Ser-244 to Val-255, Ala-296 to Val-301. |
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| L0595: 2, H0624: 1, | S0040: 1, S0342: 1, | H0657: 1, S0212: 1, | S0420: 1, S0045: 1, | H0441: 1, H0497: 1, | H0333: 1, H0559: 1, | H0486: 1, T0109: 1, | H0253: 1, H0309: 1, | H0545: 1, H0123: 1, | H0081: 1, H0024: 1, | S0388: 1, T0010: 1, | H0594: 1, H0266: 1, | H0292: 1, H0286: 1, | H0252; 1, H0615: 1, | H0039: 1, H0048: 1, | H0644: 1, H0617: 1, | H0598: 1, H0135: 1, | H0063: 1, H0164: 1, | H0433: 1, H0625: 1, | H0561: 1, L0065: 1, | H0131: 1, S0150: 1, | H0633: 1, H0538: 1, | S0208: 1, H0529: 1, | L0770: 1, L0637: 1, | L0800: 1, L0374: 1, | L0644: 1, L0363: 1, | L0794: 1, L0766: 1, | L0388: 1, L0533: 1, | L0804: 1, L0650: 1, | L0540: 1, L0809: 1, |
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| | 12914 |
| H0547: 1, H0593: 1, H0659: 1, H0660: 1, S0044: 1, H0478: 1, S3014: 1, S0032: 1, L0750: 1, L0777: 1, L0758: 1, S0031: 1, H0653: 1 and H0667: 1. | : _ |
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| | S0045: 1 | AR055: 1, AR096: 1, AR089: 1, AR060: 1, AR104: 1, AR039: 1, AR061: 1, AR053: 1, AR033: 0, AR052: 0 S0418: 1, H0328: 1 and L0758: 1. | H0038: 1, H0435: 1 and L0592: 1. | H0553: 1 and L0758: | L0748: 3, L0759: 3, H0366: 2, L0666: 2, L0665: 2, L0602: 2, S0136: 2, L0751: 2, L0779: 2, S0442: 1, L0717: 1, L0738: 1, T0010: 1, S0003: 1, |
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| | 241 | 242 | 243 | 244 | 245 |
| | 991014 | 991048 | 991268 | 991516 | 991654 |
| | HEI GN26 | HODCU15 | HOGDI51 | HLWAF02 | HRKPA16 |

| | 107250, 134820, 134820, 134820, 134830, 134850, 181600, 189800, 266300 |
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| | Asp-15 to Ser-25, Ser-33 to Val-38, Lys-181 to Phe-187. |
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| F0023: 2, H0561: 2, | S0440: 2, L0766: 2, | .0809: 2, H0547: 2, | 40519: 2, S0126: 2, | 2, H0672: 2, | S0330: 2, L0754: 2, | .0745: 2, L0750: 2, | 10506: 2, H0265: 1, | H0556: 1, S0040: 1 | H0717: 1, H0294: 1 | H0583: 1, H0657: 1 | L0785: 1, H0669: 1 | l, L0005: 1 | l, H0619: 1 | H0351: 1, S0222: 1 | l, H0431: 1 | 1, H0618: 1 | T0110: 1, H0570: 1, | 1, L0471: 1 | 1, H0031: 1 | L0055: 1, H0166: 1 | 1, H0068: 1 | l, H0163: 1 | 1, S0450: 1 | H0647: 1, H0646: 1 | , L0638: 1, | l, L0641: 1 | l, L0662: 1 | l, L0775: 1 | .0653: 1, L0776: 1 |
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| L0512: 1, E0783: 1, L0382: 1, L0532: 1, L0666: 1, S0374: 1, L0438: 1, H0520: 1, H0682: 1, H0658: 1, S0380: 1, S0044: 1, S0146: 1, S0044: 1, S0146: 1, S0047: 1, S012: 1, S0027: 1, S0031: 1, S0434: 1, L0777: 1, L0731: 1, S0031: 1, S0434: 1, L0599: 1, H0668: 1, H0665: 1, S0424: 1, UNKWN: 1 and L0600: 1, | Gln-2 to Ala-8, 26, AR055: 28, AR039: Asn-18 to Pro-28, 26, AR060: 21, AR033: Ala-129 to Asp-135, 20, AR052: 17, AR089: Ser-161 to Ser-171, 16, AR096: 16, AR104: Val-242 to Arg-250, 15, AR053: 15, AR061: 11 L0751: 6, L0783: 4, H0672: 4, L0805: 2, L0752: 2, L0758: 2, H0657: 1, H0255: 1, H0638: 1, S0418: 1, S0442: 1, H0351: 1, H0587: 1, H0255: 1, |
| | Gln-2 to Ala-8, Asn-18 to Pro-28, Ala-129 to Asp-135, Ser-161 to Ser-171, Val-242 to Arg-250. |
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| NHELHHHHHHOHHHOHHHOHH | Gly-23 to Lys-28, Ser-37 to Gly-42, Lys-90 to Asp-101, Glu-175 to Phe-182, Glu-245 to Thr-251. |
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| L0759: 2, L0605: 2, S0040: 1, H0583: 1, S0001: 1, S0282: 1, H0255: 1, H0669: 1, H0662: 1, S0354: 1, S0278: 1, S6022: 1, H0549: 1, S6014: 1, H0438: 1, H0427: 1, | H0618: 1, S0010: 1, S0049: 1, H0150: 1, H0009: 1, H0050: 1, H0012: 1, H0620: 1, H0057: 1, S0388: 1, | ਜੀ ਜੀ _ਕ ੂੰ ਜੀ . | L0649: 1, L0803: 1, L0375: 1, L0776: 1, L0659: 1, L0783: 1, L0665: 1, H0144: 1, H0519: 1, H0593: 1, | H0690: 1, H0518: 1, L0611: 1, S3012: 1, L0754: 1, L0747: 1, L0755: 1, L0758: 1, | 1, moods: 1, 1 and H0422: 8, AR033: | AR089: 6, AR060: 6, |
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| | · | | · | | Trp-26 to Lys-36. | |
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| AR104: 5, AR039: 5, AR096: 4, AR061: 4, AR053: 4, AR052: 4 L0522: 3, L0748: 2, H0171: 1, H0686: 1, L0034: 1, H0615: 1, L0764: 1, L0794: 1, S0052: 1, S0374: 1 and L0601: 1. | H0615: 3 | S0001: 1, H0328: 1 and H0615: 1. | L0809: 7, L0758: 7, L0754: 5, S0007: 4, L0665: 4, L0794: 4, L0665: 4, H0333: 3, L0769: 3, L0761: 3, L0768: 3, L0803: 3, L0439: 3, H0395: 2, S0222: 2, H0039: 2, H0124: 2, S0036: 2, L0535: 2, L0666: 2, L0777: 2, L0751: 2, L0777: 2, L0759: 2, L0591: 2, L0485: 2, H0624: 1, H0716: 1, |
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| 13: 1, | 88: 1, | 138: 4 | 56: 3, | 18 : 3, | 53: 3, | 62: 2, | 29: 2, | 59: 2, | 51: 2, | 88: 2, | 85: 1, | 99: 1, | 27: 1, | 51: 1, | 94: 1, | 73: 1, | 551: 1, | 02: 1, | 61: 1, | 68: 1, | L0775: 1, | L0659: 1, | L0666: 1, | 135: 1, | 80: 1, | 60: 1, | L0485: 1 and | |
| HOH. | , H06 | 6, LQ | , H06 | , L07, | ,107 | , H06 | 2, H05 | 2, H06 | 1,107 | 2, 1.05 | 2, 1.07 | l, H0599: | l, H03 | 1, HO | 1, 1,01 | 1, H06 | 1, HO | 1, S00 | 1,107 | 1, LO | | • | 1,100 | 1, HQ | 1, S03 | 1, S02 | • | <u> </u> |
| H0587: 1, H0013: 1, | H0318: 1, H0688: 1, | L0794; 6, L0438: 4 | .0758: 4, H0656: 3, | .0766: 3, L0748: 3, | .0747: 3, L0753: 3 | .0731: 3, H0662: 2, | H0013: 2, H0529: 2 | ,0655: 2, H0659: 2, | .0439: 2, L0751: 2, | L0779: 2, L0588: 2, | 0422 | S0420: 1 | S0010: 1, H0327: | H0024: 1, H0051: | H0083: 1, L0194: | 0055: | H0038: 1, H0551: 1 | H0561: 1, S0002: | .0770: 1, L0761: | 0764: | L0774: 1 | J0806: 1 | .0519: 1,] | S0126: 1, H0435: 1 | S0330: 1, S0380: 1, | \$3014: 1, S0260: 1, | L0592: 1 | L0362: |
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| | | Phe-12 to Tvr-22. | e-4 | | | | | | | · | | | | | | | | | | | | • | | | | | | |
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| H0519: 1 and S3014: 1. | L0747: 4, L0758: 3, L0794: 2, L0649: 2, L0749: 2, L0759: 2, H0624: 1, H0333: 1, L0598: 1, L0773: 1, L0661: 1, L4501: 1, S0126: 1, H0682: 1, S0328: 1, H0521: 1, L0748: 1, L0750: 1, L0780: 1, L0750: 1, | Ala-41 to Ser-46, H0052: 25, T0006: 15, Gly-57 to Gly-62, L0596: 12, S0222: 11, Glu-91 to Asn-111, H0009: 10, L0753: 10, Gln-113 to Pro-120, H0441: 9, L0439: 9, Val-128 to Ser-133, L0752: 9, S0358: 8, His-142 to Arg-149, H0253: 8, H0618: 7, Thr-177 to Leu-184, H0231: 7, L0769: 7, Arg-206 to Ile-214, H0144: 7, S0374: 7, Phe-261 to Trp-270, H0550: 6, L0775: 6, Asn-298 to Phe-305, L0745: 6, L0747: 6, Gln-315 to Gly-320. S6024: 5, H0597: 5, H0178: 5, S0388: 5, S0051: 5, H0399: 5, L0750: 5, L0731: 5, S0007: 4, H0351: 4, |
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|)S | Ĭ. | Þ | <u> </u> | <u> </u> | <u>X</u> | H | <u> </u> | <u>.</u> ; <u>.</u> | . <u>v</u> | | | | | | | | | · , | | <u> </u> | | , p== | | | | | | | |
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| S0028: 2, L0744: 2 | S0260: 2, H0685: | S0110: 1, H0176: | 442: 1, SO | 360: 1, SO | 411: 1, H(| H0431: 1, H0438: 1 | H0333: 1, LC | 10013: 1, H(| H0427: 1, H(| 1 | | H0205: 1, H(| • | H0569: 1, H(| | H0620: 1, H(| 30362: 1, LO | H0051: 1; H(| S6028: 1, HC | H0688: 1, H0428: 1 |)424: 1, H | H0673: 1, H0169: | .0456: 1, H0135: | H0059: 1, H0102: 1 | S0038: 1, S0112: | H0494: 1, H0130: 1 | H0529: 1, L0369: | .0520: 1, L0762: 1 | L0500: 1, L0638: 1 |
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| S0026: 4, H0663: 3, | 10413: 3, S0276: 3, | 10685: 2, H0650: 2, | 40393: 2, S0278: 2, | 10392: 2, H0486: 2, | H0535: 2, H0412: 2, | 30440: 2, L0646: 2, | L0764: 2, L0662: 2, | 2, L0774: 2, | 2, H0144: 2, | , H0659: 2, | 30152: 2, H0134: 2, | .0743: 2, L0744: 2, | .0588: 2, H0624: 1, | H0265: 1, S0040: 1, | 30358: 1, S0408: 1, | S0045: 1, H0333: 1, | H0250: 1, H0427: 1, | H0041: 1, H0050: 1, | .0471: 1, H0266: 1, | H0328: 1, H0615: 1, | H0031: 1, H0606: 1, | H0212: 1, H0038: 1, | 10634: 1, H0551: 1, | HO488: 1, HO560: 1, | H0625: 1, H0633: 1, | H0647: 1, H0646: 1, | S0422: 1, H0529: 1, | 1, L0772: 1, | l, L0773: 1, |
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| | Pro-1 to Ser-8. |
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| 8: 2, F | 6: 2, S | 3:2,L | 7:2, L | 0731: 2, L | 8: 2, H | 4: 1, H | 6: 1, F | 4: 1, S | H0438: 1, F | 2: 1, L | 9: 1, F | 4: 1, S | 2: 1, S | | 6: 1, F | 8: 1, H | 9: 1, F | 6: 1, H | H0165: 1, F | H0124: 1, S | • | - | 1, F | 2: 1, S | .0763: 1, L | | _ | 1; 1; L | • |
| H064 | H043 | 1074 | 107 | 1073 | 1058 | S6024: 1 | H065 | H066 | H043 | L062 | H059 | H000 | S0182: 1, | H0052: 1 | H059 | S038 | H003 | <u>100</u> | H016 | H012 | H003 | H0100: 1 | H064 | S042 | 1.076 | 100 | 4001 | L0521: 1 | L0806: 1 |
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| 7776: 7 | 3135: 6 | 3649: (| 3439: (| 7758: € | 0046: | 771:5 | 0731: 5 | 0134: | 360: 4 | 0083: | 0774: 4 |)438: 4 | . : 22 | 0265: 3 | 0132: | 0581: | 0471: | .0687: | 0551: | L0517: 3, | 9990 | 0658: | 0521: | 3742: 3 | 0597: | L0589: 3, | L0485: 3, | 0624: | S0418: |
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| H0670: 3, H0624: 1, H0661: 1, S0354: 1, S0360: 1, S0278: 1, H0559: 1, H0150: 1, H0024: 1, H0510: 1, H0551: 1, H0413: 1, S0328: 1, H0555: 1 and L0759: 1. | H0046: 22, H0547: 15, H0046: 22, H0547: 15, H0013: 7, H0009: 7, H0021: 7, H0529: 7, H0024: 6, H0520: 6, H0542: 6, H0543: 6, H0521: 5, L0439: 5, H0422: 5, S0420: 4, H0494: 4, H0561: 4, L0747: 4, L0595: 4, L0593: 4, L0595: 4, L0595: 3, H0656: 3, L0005: 3, R0586: 3, S0046: 3, S0 | S0278: 3, H0586: 3, T0110: 3, H0620: 3, |
| , 2, 50, 67. | Arg.4 to Gly-24, Lys.47 to Phe-55, Lys.61 to Ala-67, Gly-108 to Thr-114, Pro-184 to Pro-191, Pro-292 to Arg.299, Pro-355 to Glu-392. | |
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| 22: 3, | 35: 3, | 23: 3, | 43. | 24: 2, | 02:2, | 41: 2, | 12: 2, | 19: 2, | 87: 2, | 31: 2, | 69: 2, | 75: 2, | 81: 2, | 4.2 | 03: 2, | 53: 2, | 34: 2, | 79: 2, | 56: 2, | 4.2 | 26: 2, | 35: 2, | 30:2, | 26: 2, | 27: 2, | 40:2, | 45: 2, | 38: 2, | 70: 1, |
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| H0083: 3, S0022: 3, | H0615: 3, H0135: 3, | H0591: 3, H0623: 3, | H0538: 3, H0144: | .0438: 3, H0624: 2, | H0265: 2, T0002: 2, | S0116: 2, H0341: 2, | S0418: 2, S0442: | S0358: 2, H0619: 2, | S0222: 2, H0587: 2, | H0497: 2, H0331: 2, | H0486: 2, H0069: 2, | H0635: 2, H0575: 2, | H0318: 2, H0581: 2, | H0052: 2, H0544: 2, | H0292: 2, S0003: 2, | H0622: 2, H0553: 2, | 038: 3 | H0551: 2, H0379: 2, | H0412: 2, H0056: 2, | H0100: 2, S0144: 2, | S0142: 2, L0626: 2, | S0126: 2, H0435: 2, | H0666: 2, S0330: 2, | H0436: 2, H0626: 2, | H0631: 2, S0027: 2, | S0028: 2, L0740: | .0750: 2, H0445: 2, | S0434: 2, L0588: 2, | .0600: 2, H0170: 1 |
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| H0130: 1, H0633: 1, S0210: 1, L0598: 1, L0625: 1, L0649: 1, L0776: 1, L0517: 1, L07382: 1, L0367: 1, H0697: 1, L0663: 1, H0689: 1, H0670: 1, H0660: 1, S0380: 1, H0522: 1, H0694: 1, H0134: 1, S0406: 1, S0037: 1, L0754: 1, L0752: 1, L0759: 1, L0757: 1, L0759: 1, L0757: 1, L0759: 1, H0665: 1, H0667: 1, H0665: 1, H0667: 1, H0136: 1, S0196: 1, | L0731: 3, H0632: 1, H0052: 1, H0628: 1, L0766: 1, L0636: 1, L0545: 1, L0543: 1, H0658: 1, L0740: 1, L0750: 1, L0752: 1, S0260: 1 and H0293: 1. | L0755: 3, L0766: 2, L0794: 1, L0759: 1 and H0343: 1. | H0684: 38, H0703: 27, H0685: 23, H0717: 21, |
| | Arg-1 to Ser-20. | Val-1 to Asn-6. | |
| | 2452 | 2453 | 2454 |
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| H0688: 21, H0687: 19, | H0542: 19. H0722: 15. | H0699: 14, H0716: 12, | H0725: 9, H0494: 8, | 10696: 7, H0689: 5, | 10555: 5, H0708: 4, | H0545: 3, H0695: 3, | H0723: 3, H0724: 3, | H0683: 3, H0521: 3, | H0686: 2, H0713: 2, | H0580: 2, H0546: 2, | H0509: 2, H0593: 2, | H0710: 2, H0709: 2, | H0543: 2, H0712: 2, | H0650: 1, H0675: 1, | H0602: 1, H0586: 1, | H0510: 1, H0488: 1, | H0560: 1, S0422: 1, | H0698: 1, H0691: 1, | H0690: 1, H0682: 1, | H0694: 1 and S0424: 1. | L0769: 6, L0747: 5, | H0619: 2, L0761: 2, | _0794: 2, L0803: 2, | 0659: 2, L0809: 2, | L0744: 2, L0745: 2, | H0583: 1, H0483: 1, | | H0581: 1, H0052: 1, | H0264: 1, H0561: 1, |
| <u> </u> | <u> </u> | | | <u>.</u> E. | <u>i±i</u> | <u>i-li-i</u> | <u>. 14</u> | <u>;</u> | <u>, 114</u> | <u>, 44</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | H | , 1-4 | | | | | Lys-43 to Tyr-48, | Arg-73 to Arg-79, | Pro-183 to Gly-188, | Pro-192 to Ser-201. | | | | | |
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| L0762: 1, L0766: 1, L0791: 1, L0666: 1, H0547: 1, H0435: 1, H0521: 1, L0751: 1, L0750: 1 and L0780: 1. | L0748: 16, S0007: 7, H0360: 7, H0360: 7, H0046: 6, L0803: 5, L0747: 5, L0771: 4, L0794: 4, L0771: 4, L0794: 4, L0751: 4, H0486: 3, L0665: 3, L0663: 3, L0663: 3, L0665: 3, L0665: 3, L0665: 3, L0439: 3, L0758: 3, H0637: 2, H0052: 2, H0169: 2, L0598: 2, L0637: 2, H0144: 2, H0436: 2, L0754: 2, H0170: 1, S0134: 1, H0650: 1, S0148: 1, S0376: 1, H0580: 1, S0418: 1, S0452: 1, H0393: 1, L0622: 1, L0622: 1, L0623: 1, L0622: 1, L0622: 1, L0623: 1, L0622: 1, L0622 |
| | Glu-1 to Thr-9, Asn-17 to Ser-34. |
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| %: 1: | 77: 9, 8: 5. L | 4: 4, L | 3: 4, L | 5: 3, H | 3: 2, L | 5: 2, S | 2: 2, L | D. 2, T | 6: 1, S | 5: 1, S(| 5: 1, H | 4: 1, H | | 8: 1, H | | - | ?: 1, Ľ | Ξ | i: 1, L(| 5: 1, L(|); I, I | F. 1, T(|): 1, H | : 1, L | 1,1 | : 1, LC | .0731: 1, L0759: |
| H042 | 1074 1074 | 1.075 | | _ | L076 | T066 | 1060 | L075 | H068 | S011 | H057 | H000H | 1004 | H002 | H004 | 1.076 | 1,066 | 1,077 | 1065 | 1.0526 | 10789 | 79907 | H067 | 12074 | 120751 | 1,077 | 10731 |
| | 12, 1-57, | -88, | u-131, | p-153. | | | | | | | | | | | | | | | | | | | | | | | |
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| L0591: 1 and S0011: 1 | H0134: 1 and L0756: 1. | LO794: 11, L0805: 10, L0794: 11, L0805: 10, H0013: 6, H0090: 6, L0766: 6, L0663: 6, L0731: 6, H0457: 5, L0759: 5, L0777: 5, L0759: 5, L0777: 5, L0779: 4, H0305: 3, L0779: 4, H0305: 3, L0779: 4, H0305: 3, L0559: 3, H0660: 2, L0717: 2, H0600: 2, L0717: 2, H0600: 2, L0717: 2, H0600: 2, L0717: 2, H0600: 2, L0727: 2, L0805: 2, L0625: 2, L076: 2, L0655: 2, L0745: 2, L0588: 2, L0581: 2, L0361: 2, H0542: 2, S0424: 2, H0542: 2, S0424: 2, H0542: 2, S0424: 2, H0624: 1, H0171: 1, H0686: 1, H0656: 1, H0650: 1, H0656: 1, H0650: 1, H0656: 1, H06 |
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| | | Lys-1 to Arg-46. |
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| H0341 | S0418 | 80358 | 80408 | S0045 | H037(| H0602: | 750H | S0280: 1 | H057; | H031 | T0115 | 1,0157 | H001 | S0051 | H027 | S0003: 1 | H064 | H016 | H063 | 1047 | H065 | 1,0640: 1, | L0500: 1 | 1.0646: 1 | L0662: 1 | L0804: 1 | L0784: 1 | 1065 | L0515: |
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| .0526: 1, L0519: 1, .0788: 1, L0790: 1, .0791: 1, L0664: 1, S0296: 1, H0520: 1, | H0547: 1, H0519: 1, S0126: 1, H0682: 1, H0659: 1, H0658: 1, | H0660: 1, H0672: 1, S0380: 1, H0518: 1, | H0525: 1, S0404: 1, S0406: 1, H0479: 1, | S0432: 1, L0744: 1, | 0753: 1, L0/80: 1, | S0106: 1, S0242: 1, | S0196: 1, H0543: 1, | H0423: 1 and S0452: 1. | L0809: 5, L0439: 4, | L0591: 2, S6024: 1, | H0341: 1, H0346: 1, | S0356: 1, S0358: 1, | S0360: 1, L0040: 1, | H0457: 1, H0494: 1, | L0518: 1, L0666: 1, | L0665: 1, S0330: 1, | H0521: 1, L0752: 1, | L0731: 1, L0758: 1, | L0590: 1 and L0599: 1. | |
| <u> </u> | <u> </u> | <u> </u> | <u> </u> | 97. | | 9.2 | | | Ser-62 to Thr-67, | Val-74 to Cys-79, | Thr-118 to Gln-132, H0341: 1, H0346: 1 | Glu-204 to Asp-219, S0356: 1, S0358: 1, | Pro-225 to Arg-235. S0360: 1, L0040: 1 | | | | | | | Pro-24 to His-31. |
| | | | + | | | | | | 2461 | | | | | | | | | | | 2462 |
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| L0748: 9, L0769: 7, | .0776: 6, L0747: 6, | .0768: 5, L0775: 5, | .0750: 5, S0358: 4, | S0144: 4, L0763: 4, | .0731: 4, L0757: 4, | .0588: 4, H0657: 3, | S0046: 3, H0545: 3, | S0438: 3, S0422: 3, | 20770: 3, L0517: 3, | S0406: 3, L0755: 3, | F0049: 2, H0341: 2, | S0408: 2, S0410: 2, | H0580: 2, S0222: 2, | H0586: 2, L0622: 2, | r0109: 2, H0083: 2, | H0551: 2, H0100: 2, | H0396: 2, S0440: 2, | S0210: 2, L0520: 2, | .0764: 2, L0767: 2, | .5574: 2, L0540: 2, | .0518: 2, L0809: 2, | S0330: 2, S0380: 2, | J0758: 2, S0031: 2, | H0543: 2, H0170: 1, | H0685: 1, H0716: 1, | H0295: 1, S0212: 1, | S0110: 1, S0282: 1, | S0420: 1, S0444: 1, | H0351: 1, H0411: 1, |
| 2463 Glu-14 to Lys-25. | _ | <u>)</u> | <u> </u> | S | <u> </u> | | <u> </u> | S | <u>.1</u> | Ś | E | Ś | <u></u> | <u></u> | H | <u> </u> | <u>æ</u> | S | <u>1</u> | <u></u> | <u> </u> | S | <u></u> | <u> </u> | <u> </u> | <u>.ac</u> | S | <u>S</u> | <u>E</u> |
| 2463 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 3: 1. | 7: 1, | 4: 1, | 1: 1, | 9: 1, | 3: 1, | 1: 1, | 28: 1, | 38: 1, | 38: 1, | 57: 1, | 94: 1, | 55: 1, | 41: 1, | 43: 1, | 72: 1, | 21: 1, | 51: 1, | 23: 1, | 34: 1, | 53: 1, | 65: 1, | 90: 1, | 72: 1, | 52: 1, | 14: 1, | 32: 1, | 52: 1, | 03: 1, | t23: 1 and |
| S0278: 1, H0643: 1 | .0623: 1, H0427: | H0575: 1, H0004: 1 | T0048: 1, T0001: 1 | 1, H000 | H0023: 1, T0003: 1 | S0388: 1, S0051: 1 | H0266: 1, H0628: 1 | H0124: 1, H0708: 1 | 1, H00 | 1, T0067: 1 | H0413: 1, H0494: | H0625: 1, L0065: | H0130: 1, H0641: | 10633: 1, H0743: | .0761: 1, L0772: | .0646: 1, L0521: | .0766: 1, L0561: | 1, LOS | L0559: 1, L0634: 1, | 1, LO6 | 1, 105 | H0547: 1, H0690: | H0666: 1, H0672: | H0710: 1, S0152: | S0118: 1, S3014: 1 | 1, S00 | : 1, LO7 | S0308: 1, L0603: 1 | H0136: 1, H0423: 1 |
| \$0278: | L0623: | H0575: | T0048: | H0196: | H0023: | S0388: | H0266: | H0124: | H0163: | H0040: 1, | H0413: | H0625 | H0130 | H0633 | L0761: | 10646 | L0766 | 10774 | L0559 | L0783 | 10664 | H0547 | H0666 | H0710 | S0118 | S0027 | L0751 | 80308 | H0136 |
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| | 109560, 205900, 600652, 600757 | |
| | 19q13 | |
| S0396: 1. | H0494: 4, L0794: 3, H0670: 2, L0751: 2, H0661: 1, H0602: 1, H0587: 1, H0014: 1, H0688: 1, L0376: 1, L0806: 1, L0657: 1 and L4501: 1. | H0521: 22, L0601: 8, H0266: 7, S0126: 7, L0748: 6, H0556: 4, S0356: 4, S0358: 4, H0052: 4, L0771: 4, H0599: 3, H0581: 3, H0046: 3, H0616: 3, S0144: 3, L0766: 3, L0664: 3, L0766: 3, L058: 3, L0759: 3, H0547: 3, S3014: 3, L0758: 3, L0759: 3, H0423: 3, H0542: 3, H0423: 3, H0542: 3, H0423: 3, H0542: 3, H0580: 2, S0360: 2, H0580: 2, S0045: 2, S0132: 2, H0393: 2, |
| | Thr-10 to Ala-18, Pro-56 to His-64, Pro-66 to Leu-74, Ser-81 to Asp-86, Glu-93 to Trp-101, Leu-143 to Gln-151, Pro-162 to Asp-171, Thr-216 to Asp-171, Thr-258 to Gln-246, Lys-258 to Gly-268, Trp-283 to Gly-295. | |
| | 2464 | 2465 |
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| 86: 2, | 13: 2, | 75: 2, | 4: 2. | 523: 2, | S0344: 2, | 09: 2, | 4: 2, | 22: 2, | 27: 2, | L0740: 2, | 80: 2, | 76: 2, | 02: 1, | 1, | 650: 1, | 282: 1, | 663: 1, | 638: 1, | 1, 1, | 176: 1, | 468: 1, | 619: 1, | 415: 1, | 497: 1, | 069: 1, | 421: 1, | 040: 1, | 620: 1, | H0051: 1, |
| S0222: 2, H0586: 2, | H0486: 2, H0013: 2, | H0108: 2, H0575: 2, | H0050: 2, H0644: 2, | H0169: 2, H0623: | S0142: 2, S03· | J0659: 2, L0809: 2, | .0666: 2, H0144: | S0374: 2, H0522: 2, | S3012: 2, S0027: 2, | .0743: 2, L07 | | .0594: 2, S0276: 2, | H0170: 1, T0002: 1, | 22: 1, SO | H0713: 1, H0650: | H0657: 1, S0282: | H0255: 1, H0663: 1 | H0459: 1, H0638: 1 | S0418: 1, S0420: 1 | 54: 1, SO | 39: 1, 50 | S0140: 1, H0619: 1 | 17: 1, HO | H0438: 1, H0497: | H0250: 1, H0069: | S0346: 1, H0421: | H0194: 1, L0040: | H0178: 1, H0620: | H0014: 1, HC |
| 8022 | H04 | H01(| H00 | H01(| S014 | 106 | 106 | S037 | S30] | 1.07 | 107 | 105 | H01 | H02 | H07 | 90H | H02 | HOH | 804 | 503 | HO: | S01 | <u>1</u> 02 | ĎΗ | HO | S03 | 品 | OH. | HO |
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| H0354: 1, H0271: 1, | 10622: 1, T0006: 1, | 10424: 1, H0031: 1, | .0142: 1, H0673: 1, | 10124: 1, S0366: 1, | H0316: 1, H0135: 1, | H0591: 1, H0087: 1, | 10551: 1, T0067: 1, | H0264: 1, H0487: 1, | H0268: 1, H0413: 1, | H0056: 1, H0100: 1, | .0564: 1, H0494: 1, | H0366: 1, H0641: 1, | S0422: 1, S0002: 1, | 10529: 1, L0770: 1, | .0637: 1, L0772: 1, | .0646: 1, L0764: 1, | | .0774: 1, L0806: 1, | .0652: 1, L0493: 1, | .0382: 1, L0788: 1, | ,0663: 1, H0691: 1, | H0689: 1, H0435: 1, | H0659: 1, H0658: 1, | S0330: 1, S0378: 1, | S0152: 1, S0406: 1, | H0555: 1, S0028: 1, | .0779: 1, L0755: 1, | .0731: 1, L0757: 1, |
| H0354: 1, H0271: 1 | <u> </u> | <u></u> | <u>-</u> | <u></u> | <u></u> | <u>, L.</u> | <u></u> | <u></u> | 连 | 亞 | <u>.</u> | <u> </u> | S | <u>i4</u> | | <u></u> | _ لــــ | 닖. | <u>.</u> | | <u> </u> | <u>₩.</u> | ∓ i | S | S | <u>iti</u> | <u>-</u> | |
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| | 7q35-q36 | | |
| L0605: 1, L0581: 1, L0595: 1, L0603: 1, H0665: 1, S0192: 1, H0543: 1 and H0422: 1. | L0769: 7, L0751: 6, L0666: 4, L0749: 3, H0030: 2, S0002: 2, L0805: 2, L0653: 2, H0657: 1, H0675: 1, S0007: 1, L0717: 1, H0638: 1, L0639: 1, L0772: 1, L0764: 1, L0773: 1, L0648: 1, L0773: 1, L0784: 1, L0806: 1, L0784: 1, L0806: 1, L0784: 1, L0806: 1, L0759: 1, H0658: 1, S3014: 1, L0747: 1, L0759: 1, L0780: 1, L0759: 1, L0780: 1, L0759: 1, L0780: 1, L0759: 1, | H0556: 1, H0650: 1, S0001: 1, S0376: 1, S0346: 1, H0328: 1, L0800: 1, L0649: 1, H0689: 1, H0660: 1 and H0445: 1. | S0278: 22, L0439: 20, L0665: 16, L0438: 15, |
| | Ala-1 to Arg-26, Thr-32 to Gln-37. | Asp-20 to Ile-37, Arg-63 to Met-71, Gly-80 to Gly-95, Lys-98 to Thr-162. | Pro-72 to Tyr-80, Pro-98 to Ser-108, |
| | 2466 | 2467 | 2468 |
| | 2-673 | 30 - 596 | 419 - 1894 |
| | 291 | 292 | 293 |
| | 896866 | 999124 | 999148 |
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| .0747 L0743 30144: | 3659: | 3049: |)222: (| 0457: | 0539: | 0757: (| 0012: | 9649: | 3751: | 0333: , | 0188: | 0770 | 3662: 4 | 0758: | 0295: | 0530 | .0086: | 0024: | 0526: | 0670: | 0755: | 0418: | 0393: | H0550: | 0545: | H0290: |
| L0748: 15, L0747: 15, H0521: 11, L0743: 10, L0759: 10, S0144: 9. | L0666: 9, L0659: 8 | L0741: 8, S0049: 7 | 2, 7, 13 2, 7, 8(| 2: 6, H | 6, H | L0731: 6, L0757: 6, | H0575: 5, H0012: | H0100: 5, L0649: | J0742: 5, L0751: 5 | S0046: 4, H0333: 4 | H0581: 4, H0188: 4 | H0424: 4, L0770: 4, | .0764: 4, L0662: 4, | H0555: 4, L0758: 4, | .0601: 4, H0295: 3, | H0549: 3, S0290: 3 | H0618: 3, H0086: 3 | H0620: 3, H0024: | H0551: 3, L0526: | .0663: 3, H0670: | H0672: 3, L0755: 3, | H0255: 2, S0418: 2 | H0580: 2, H0393: | 1: 2, H | H0253: 2, H0545: 2, | 3: 2, H |
| Thr-132 to Gly-146, L0748: 15, L0747: 15, Pro-170 to Ala-177, H0521: 11, L0743: 10, Ser-265 to Pro-280. L0759: 10, S0144: 9. | | L074] | Asn-434 to Tyr-439, S0126: 7, S0222: 6, | Gln-452 to Gly-457, H0052: 6, H0457: | Asp-469 to Val-485. S0036: 6, H0539: 6, | L0731 | H057 | H0100 | 1.0742 | S0046 | H058 | H042 | 79207 | H055 | <u>1</u> | H054 | H0618 | H062(| H055 | L0663 | H067 | H025 | H058(| H0351: 2, | H025 | H0123: 2, |
| /-146, 177, -280. | 5-309, | a-354, | r-439, | 7-457, | 1-485. | | | | | | | | | | | | | | | | | | | | | |
| to Gly to Ala | to Asp | to Alg | to Ty | to GJ | to Va | | | | | | | | | | | | | | | | | | | | | |
| Thr-132 to Gly-146, Pro-170 to Ala-177, Ser-265 to Pro-280. | Pro-303 to Asp-309, | Asp-349 to Ala-354, | 1g-50/ sn-434 | In-452 | sp-469 | ı | | | | | | | | | | | | | | | | | | | | |
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| H0039; 2, H0622: 2, | H0553: 2, H0617: 2, | H0135: 2, H0412: 2, | S0038: 2, L0351: 2, | 10494: 2, S0426: 2, | .0769: 2, L0637: 2, | .0646: 2, L0773: 2, | L0648: 2, L0768: 2, | J0774: 2, L0775: 2, | .0651: 2, L0352: 2, | H0520: 2, H0519: 2, | H0435: 2, H0651: 2, | H0696: 2, S0028: 2, | L0744: 2, L0740: 2, | L0749: 2, L0750: 2, | L0779: 2, L0780: 2, | L0753: 2, S0260: 2, | L0361: 2, H0667: 2, | H0170: 1, H0685: 1, | S0040: 1, S0180: 1, | S0212: 1, H0254: 1, | S0354: 1, S0376: 1, | H0676: 1, S0408: 1, | S0007: 1, S0300: 1, | H0437: 1, H0261: 1, | H0441: 1, H0392: 1, | H0455: 1, H0586: 1, | H0587: 1, H0574: 1, | H0559: 1, H0486: 1, | L0586: 1, H0427: 1, |
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| : 1. H0599: 1. | : 1, H0590: 1, | S0324: 1, H0251: 1, | : 1, H0327: 1, | H0546: 1, H0081: 1, | H0050: 1, H0014: 1, | .0163: 1, H0051: 1, | : 1, T0010: 1, | H0594: 1, H0266: 1, | H0687: 1, H0292: 1, | S0250: 1, H0688: 1, | H0428: 1, L0483: 1, | H0405: 1, H0124: 1, | H0068: 1, H0163: 1, | H0087: 1, H0077: 1, | H0264: 1, H0433: 1, | H0268: 1, H0413: 1, | H0059: 1, H0102: 1, | : 1, S0210: 1, | • | 7 | | | : 1, L0558: 1, | : 1, L0783: 1, | .0647: 1, L0789: 1, | : 1, S0006: 1, | : 1, H0689: 1, | H0684: 1, H0658: 1, | H0660: 1, H0522: 1, |
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| S0280: 1 | L0022: | 80324: | H0597: 1 | H0546 | . H0020 | L0163 | S0051: 1 | H0594 | H0687 | 80250 | H0428 | H0405 | H0068 | H0087 | H0264 | H0268 | H0059 | S0142: 1 | H0529: 1 | L0771: 1 | L0766: 1, | L0378: 1 | L0656: 1 | L0636: 1 | 10647 | L0664: 1 | L0565: 1, | H0684 | 0990H |
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| S0390: 1, S3014: 1, L0754: 1, L0752: 1, H0445: 1, H0668: 1, H0653: 1, H0665: 1, S0276: 1, H0542: 1, S0458: 1 and H0352: 1. | H0441: 3, H0672: 2, H0555: 2, H0208: 1, S6016: 1, S0222: 1, H0586: 1, H0013: 1, S0049: 1, H0052: 1, H0545: 1, H0046: 1, S0051: 1, T0023: 1, H0647: 1, L0438: 1, L0751: 1, L0756: 1 and | Pro-1 to Pro-6, Thr-134 to Gln-140, L0748: 20, S0222: 14, Tyr-142 to Arg-150. S0010: 9, H0441: 6, S0049: 6, L0456: 6, S0049: 6, L0456: 6, S00346: 5, L0769: 5, S6028: 4, H0428: 4, L0770: 4, L0638: 4, L0770: 4, L0638: 4, L0750: 4, L0753: 4, L0750: 4, L0753: 4, L0750: 4, L0753: 3, H0619: 3, S0300: 3, H0624: 2, H0717: 2, S6024: 2, H0156: 2, |
| | Lys-117 to Pro-123, H0441: 3, H0672: 2 Asp-132 to Lys-137, H0555: 2, H0208: 1, Ala-153 to Met-158, S6016: 1, S0222: 1, Lys-184 to Tyr-190, S0049: 1, H0013: 1, Glu-199 to Lys-205. H0545: 1, H0046: 1, S0051: 1, H0264: 1, H0647: 1, L0438: 1, L0751: 1, L0756: 1 e H0506: 1. | Pro-1 to Pro-6, Thr-134 to Gln-140, L0748: 20, S0222: 1 Tyr-142 to Arg-150, S0010: 9, H0441: 6, S0049: 6, L0456: 6, S0346: 5, L0769: 5, S6028: 4, H0428: 4, L0770: 4, L0638: 4, L0750: 4, L0750: 4, L0753: 4, H0619: 3, S0300: 3, H0624: 2, H0717: 2, S6024: 2, H0717: 2, S6024: 2, H0717: 2, S6024: 2, H0156: 2 |
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| H0036: 2, H0051: 2, S0388: 2, S0051: 2, | H0071: 2, H0083: 2, | 70006: 2, L0455: 2, | .0598: 2, L0796: 2, | .5575: 2, L0659: 2, | .0665: 2, H0144: 2, | H0547: 2, L0743: 2, | , L0747: 2, | .0749: 2, L0731: 2, | .0592: 2, L0604: 2, | H0171: 1, S0282: 1, | S0029: 1, S0400: 1, | , S0007: 1, | S6026: 1, H0261: 1, | H0431: 1, H0455: 1, | H0438: 1, H0013: 1, | S0280: 1, H0575: 1, | , H0194: 1, | .0040: 1, H0327: 1, | H0150: 1, H0178: 1, | H0569: 1, H0123: 1, | H0012: 1, S0050: 1, | 10015: 1, H0107: 1, | H0375: 1, H0615: 1, | , H0090: 1, | H0412: 1, H0059: 1, | , H0100: 1, | , T0042: 1, | , L0637: 1, |
| H0036: 2 S0388: 2, | H0071: 2 | T0006: 2, | L0598: 2 | L5575: 2, | L0665: 2 | H0547: 2 | L0439: 2 | L0749: 2 | L0592: 2, | H0171: 1 | S0029: 1, | S0360: 1, | S6026: 1, | H0431: 1 | H0438: 1 | S0280: 1, | H0434: 1 | L0040: 1, | H0150: 1 | H0569: 1 | H0012: 1 | H0015: 1 | H0375: 1 | H0424: 1, | H0412: 1 | T0069: 1, | T0041: 1, | L0475: 1,] |
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| L0768: 1, L0803: 1, L0806: 1, L0776: 1, L0636: 1, L0783: 1, L0789: 1, L0663: 1, H0520: 1, H0660: 1, H0666: 1, S0378: 1, L0741: 1, L0756: 1, L0777: 1, L0759: 1, L0599: 1, L0366: 1, S0384: 1 and S0446: 1. | H0341: 2, H0013: 2, L0471: 2, H0266: 2, H0144: 2, L0591: 2, S0011: 2, H0624: 1, H0657: 1, H0151: 1, H0683: 1, H0328: 1, H0516: 1, H0591: 1, H0561: 1, S0210: 1, H0684: 1, S0162: 1, L0748: 1, L0749: 1, S0026: 1, H0542: 1 and H0543: 1. | H0042: 1, L0/69: 1 and H0659: 1. | L0761: 3, H0740: 2, L0803: 2, L0718: 2, H0624: 1, S0418: 1, H0208: 1, H0013: 1, H0427: 1, H0544: 1, |
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| | 0. | Val-13 to Gln-26. | Glu-1 to Gly-12, Lys-32 to Arg-37, Asn-45 to Ser-58, Asp-82 to Gln-97, Gly-136 to Gln-142, |
| | 2471 | 2472 | 2473 |
| | 65 - 1582 | 2 - 115 | 14-715 |
| | 296 | 297 | 298 |
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| 0622: 1, L0769: 1, | L0789: 1, H0547: 1, | H0519: 1, L0750: 1 and | S0434: 1. | L0803: 6, L0731: 6, | .0596: 6, L0665: 5, | H0591: 3, L0794: 3, | L0804: 3, L0748: 3, | L0777: 3, L0717: 2, | H0586: 2, L0471: 2, | H0622: 2, H0641: 2, | .0771: 2, L0662: 2, | .0766: 2, L0649: 2, | .0664: 2, H0682: 2, | HO670: 2, H0539: 2, | H0518: 2, L0758: 2, | .0759: 2, H0445: 2, | S0242: 2, H0422: 2, | H0171: 1, H0556: 1, | H0657: 1, H0656: 1, | H0341: 1, S0282: 1, | S0354: 1, S0360: 1, | H0574: 1, H0427: 1, | H0575: 1, H0057: 1, | H0014: 1, H0551: 1, | 10646: 1, H0529: 1, | .0763: 1, L0761: 1, | .0764: 1, L5574: 1, | | JU / 16: 1, LU65 /: 1, |
| Pro-176 to Pro-199, H0622: 1, L0769: | Val-219 to Pro-226. L | | S | Ile-5 to Lys-10, | Glu-47 to Leu-57, L | Glu-144 to Pro-151, H | | Pro-219 to Leu-228. L | | <u> </u> | <u>.a</u> | <u>.a</u> | <u>.</u> 2 | <u> </u> | <u> </u> | <u> </u> | Š | <u> </u> | 正 | <u>#</u> | <u>S</u> . | | <u> </u> | <u> </u> | <u>=</u> | | <u> </u> | | 1 |
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| L0659: 1, L0789: 1, L0666: 1, H0144: 1, H0435: 1, H0658: 1, S0328: 1, S0330: 1, H0522: 1, S0037: 1, L0747: 1, L0755: 1, H0707: 1 and H0506: 1 | H0615: 5, L0766: 4, H0272: 1, H0560: 1, H0521: 1 and H0677: | `` : : | AR089: 6, AR060: AR033: 4, AR104: AR096: 4, AR039: AR052: 3, AR053: AR061: 2, AR055: S0002: 4, S0206: 4, L0748: 2, L0740: 2, L0777: 2, S0212: 1, H0661: 1, S0278: 1, H0370: 1, H0123: 1, |
| | 4 4 | Онпина | Thr-40 to Arg-46, AR089: Leu-59 to Ser-68, AR033: Leu-236 to Thr-241, AR096: Asp-278 to His-284, AR052: AR061: S0002 L0748: L0777: H0661: |
| | 2475 | 2476 | 2477 |
| | 2 - 499 | 725 - 1024 | 3 - 854 |
| | 300 | 301 | 302 |
| | 1000339 | 1000424 | 1000582 |
| | НDРUН64 | HTTHS93 | HMVCG79 |

| S0142: 1, L0800: 1, | L0790: 1, H0539: 1, | S0028: 1, L0754: 1 and 10759: 1 | H0615: 2, S0376: 1, | L0766: 1 and L0754: 1. | AR060: 16, AR052: 8, | 7, AR033: | AR104: 6, AR089: 6, | 5, AR061: | 4, AR055: | L0776: 8, L0731: 8, | S0438: 6, L0752: 6, | H0677: 6, S0410: 5, | S0440: 5, L0764: 5, | L0749: 5, T0049: 4, | S0132: 4, L0766: 4, | H0648: 4, L0759: 4, | L0519: 3, H0684: 3, | L0748: 3, L0747: 3, | L0757: 3, S0358: 2, | S0444: 2, T0006: 2, | L0775: 2, L0806: 2, | S0152: 2, L0751: 2, | L0750: 2, L0758: 2, | S0436: 2, H0423: 2, | H0624: 1, H0556: 1, | H0157: 1, H0295: 1, |
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| | | | Gly-2 to Ile-8, | Glu-13 to Ser-25, | Pro-2 to Gly-25, | Gly-40 to Lys-62, | Arg-73 to Ala-80, | Phe-179 to Arg-184, AR039: | Pro-190 to His-195, | Glu-211 to Ala-219. | | | | , | | | | | | | - | | | | | |
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| H0294: 1, S0114: 1, | H0657: 1, H0656: 1, | H0484: 1, S0356: 1, | S0376: 1, S0360: 1, | S0408: 1, S0007: 1, | S0045: 1, H0586: 1, | H0331: 1, T0109: 1, | T0048: 1, L0040: 1, | H0046: 1, S0051: 1, | H0083: 1, H0606: 1, | H0169: 1, H0316: 1, | H0268: 1, H0412: 1, | T0042: 1, S0464: 1, | H0633: 1, L0763: 1, | L0770: 1, L0769: 1, | L0638: 1, L0771: 1, | L0648: 1, L5564: 1, | L0381: 1, L0774: 1, | L0378: 1, L0655: 1, | L0659: 1, L0809: 1, | L0788: 1, L0532: 1, | H0682: 1, H0659: 1, | S0328: 1, S0380: 1, | S0350: 1, H0696: 1, | H0436: 1, L0753: 1, | S0434: 1, L0592: 1, | L0608: 1, H0668: 1 and | S0026: 1. | Gly-33 to Trp-52, AR096: 32, AR104: Tyr-104 to Ser-110, 27, AR089: 24, AR060: |
| | | | | | | | | | | | | | | | | | - | | | | | | | | | | | Gly-33 to Trp-52, Tyr-104 to Ser-110, |
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| 22, AR061: 15, AR055: 13 L0766: 10, L0779: 5, L0770: 4, L0803: 4, L0770: 4, L0803: 4, L0777: 3, H0170: 2, H0686: 2, H0617: 2, L0806: 2, L0776: 2, L0806: 2, L0776: 2, L0754: 2, H0685: 1, H0695: 1, H0695: 1, H0686: 1, L0471: 1, H0629: 1, L0471: 1, H0629: 1, L0644: 1, L0772: 1, L0644: 1, L0764: 1, L0764: 1, L0768: 1, L0777: 1, L0759: 1, L0777: 1, | H0415: 2 | H0641: 38, S0360: 10, L0731: 8, H0542: 7, H0422: 7, H0545: 6 | H0521: 6, L0750: 6, H0423: 6, H0617: 5, |
| lle-150 to Ala-157, Ser-159 to Ala-171, Gly-178 to Gly-186, Ala-188 to Ser-204. | Ser-5 to Glu-12. | Lys-106 to Leu-111. | |
| | 2481 | 2482 | |
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| H0689: 5, H0083: 4, | H0494: 4, L0382: 4, | H0682: 4, H0435: 4, | L0747: 4, L0755: 4, | H0159: 3, H0295: 3, | H0255: 3, H0039: 3, | H0087: 3, L0770: 3, | L0768: 3, L0809: 3, | S0328: 3, L0601: 3, | H0402: 2, H0638: 2, | S0132: 2, H0250: 2, | H0581: 2, H0544: 2, | H0546: 2, H0086: 2, | L0769: 2, L0800: 2, | L0773: 2, L0648: 2, | L0665: 2, H0690: 2, | H0659: 2, H0666: 2, | H0522: 2, L0751: 2, | L0754: 2, L0757: 2, | L0596: 2, L0587: 2, | L0591: 2, L0362: 2, | H0556: 1, H0584: 1, | H0685: 1, S0040: 1, | H0294: 1, H0657: 1, | H0663: 1, H0664: 1, | H0125: 1, S0420: 1, | S0376: 1, H0489: 1, | H0580: 1, S0045: 1, | H0069: 1, S0346: 1, | H0251: 1, H0530: 1, |
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| H0012: 1, H0620: 1, H0271: 1, H0687: 1, H0181: 1, H0212: 1, S0364: 1, H0388: 1, H0090: 1, H0413: 1, H0560: 1, S0466: 1, S0440: 1, H0646: 1, S0144: 1, L0637: 1, L0764: 1, L0662: 1, L0774: 1, L0806: 1, L0778: 1, L0194: 1, L0659: 1, L0383: 1, L0659: 1, L0666: 1, L0664: 1, S0380: 1, H0518: 1, H0134: 1, S0404: 1, H0187: 1, L0749: 1, H0445: 1, | H0615: 2, L0794: 2 and H0266: 1. | Ile-8 to Gly-13, H0617: 43, H0341: 38, Pro-62 to Phe-68, S0046: 37, L0747: 34, Gly-95 to Gly-101, S0126: 30, L0507: 29, Ser-108 to Val-114, L0500: 29, S0007: 28, Glu-129 to Leu-146. H0087: 28, L0775: 28, L0509: 28, H0594: 27, | H0333: 24, L0772: 24, S0132: 23, H0620: 23, L0502: 23, L0768: 21, |
| | Thr-2 to Gln-8, Glu-20 to Gly-26. | Ile-8 to Gly-13, Pro-62 to Phe-68, Gly-95 to Gly-101, Ser-108 to Val-114, Glu-129 to Leu-146. | |
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| | 368 - 682 | 328 - 807 | : |
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| H0632: 1, H0485: | H0486: 1, T0109: 1 | 1, H0036: | H0390: 1, H0052: | H0263: 1, N0006: | H0050: 1, T0010: 1 | H0083: 1, H0266: | H0328: 1, H0169: | H0674: 1, H0598: | H0561: 1, S0150: 1, | S0344: 1, H0538: 1, | S0422: 1, UNKWN: 1 | H0529: 1, L0371: 1 | 1, L0764: 1 | .0649: 1, L0389: 1 | ,0804: 1, L0655: 1 | | 1, L0647: 1 | 1, L0664: 1 | .0665: 1, H0144: 1 | _0352: 1, H0547: 1 | 1, H0684: | H0435: 1, H0670: | H0672: 1, H0518: | 1, H0522: 1 | H0555: 1, S0390: 1 | S0037: 1, L0743: 1 | .0740: 1, L0751: 1 | 1, L0756: 1 | 0755: 1, L0596: 1 |
| H0632: | H0486: | H0098: | H0390: | H0263: | H0050: | H0083: | H0328: | H0674: | H0561: | S0344: | S0422: | H0529: | L0646: 1,] | 1.0649: | L0804: | L0606: 1 | L0809: 1, 1 | L0663: 1 | T0665: | L0352: | H0519: | H0435: | H0672: | S0152: 1 | H0555: | S0037: | L0740: | L0750: 1 | L0755: |
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| L0605: 1, L0590: 1, L0591: 1, L0593: 1, S0026: 1, S0242: 1, S0276: 1 and H0422: 1. | | H0615: 2 | H0040: 6, H0013: 3, S0136: 3, L0777: 3, | H0542: 3, H0171: 2, H0581: 2, H0328: 2, | H0615: 2, L0662: 2, | H0144: 2, L0731: 2, | H0624: 1, H0170: 1, | H0556: 1, S0282: 1, | H0661: 1, H0176: 1, | H0402: 1, S0354: 1, | S0360: 1, H0393: 1, | S6014: 1, H0574: 1, | H0427: 1, H0575: 1, | L0157: 1, S0003: 1, | H0553: 1, H0090: 1, | H0591: 1, T0067: 1, | H0264: 1, H0412: 1, | T0041: 1, H0494: 1, | H0646: 1, S0002: 1, | L0646: 1, L0642: 1, | L0645: 1, L0651: 1, | L0655: 1, L0659: 1, | L0791: 1, L0666: 1, |
| | Ser-80 to Gln-98. | Thr-2 to Ser-9, Pro-23 to Glu-34. | Ser-30 to Lys-46, Leu-55 to Gly-67, | 11e-80 to Asp-85, H0542: 3, H0171: 2 | Asn-182 to Arg-192.H0615: 2, L0662: 2, | | | | | | | | | | | | | | | | | | - |
| | 2493 | 2494 | 2495 | | | | | | | | | | | | _ | | | | | | | | |
| | 20 - 826 | 2 - 121 | 195 - 1556 | | | | | | | | | | | | | | | | | | | | |
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| H0520: 1, H0547: 1, H0519: 1, H0689: 1, H0659: 1, H0521: 1, H0696: 1, L0747: 1, L0758: 1, S0192: 1, S0242: 1 and H0422: 1. | L0803: 4, L0793: 4, L0749: 4, L0438: 3, L0439: 3, S0420: 2, H0485: 2, H0038: 2, H0561: 2, L0804: 2, L0747: 2, L0779: 2, L0591: 2, H0265: 1, H0556: 1, S0418: 1, H0728: 1, H0208: 1, H0619: 1, S0278: 1, H0619: 1, S0278: 1, L0640: 1, L076: 1, L0640: 1, L076: 1, L0807: 1, L0791: 1, S0374: 1, H0520: 1, H0522: 1, S014: 1, L0752: 1, L0759: 1, L0752: 1, L0759: 1, H0547: 1, H0521: 1, H0547: 1, H0521: 1, H0547: 1, H0521: 1, H0547: 1, H0521: 1, L0752: 1, L0759: 1, | H0644: 4, S0036: 1 and |
| <u> </u> | Gln-34 to Pro-41, Lys-60 to Thr-71, Val-78 to Gln-86, His-139 to Tyr-149, Arg-183 to His-191. I | Gln-29 to Gln-42. |
| | 2496 | 2497 |
| | 162 - 791 | 392 - 823 |
| | 321 | 322 |
| | 1002563 | 1002565 |
| | HUVHS56 | HPMJQ18 |

| H0521: 1. | L0591: 15, L0751: 13, L0665: 11, L0754: 9, H0689: 6, L0750: 6, H0362: 3, H0688: 3, H0617: 3, L0774: 3, L0657: 3, H0658: 2, H0659: 2, H0659: 2, H0690: 2, L0756: 2, L0755: 2, H0660: 2, S0328: 2, L0756: 2, L0755: 2, H0647: 1, H0644: 1, H0647: 1, L0769: 1, L0769: 1, L0806: 1, L0769: 1, L0809: 1, L0768: 1, L0809: 1, L0599: 1. | |
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| | Glu-1 to Asp-13, L0591: 15, L0751: 9. His-55 to Leu-66, L0665: 11, L0754: 9. Gln-69 to Cys-79, H0689: 6, L0750: 6, Gln-69 to Cys-79, H0362: 3, H0688: 3, Gln-132 to Arg-141, H0617: 3, L0774: 3, Asp-158 to Trp-169, L0657: 3, H0658: 3, Lys-171 to Asn-180, H0575: 2, H0615: 2, His-208 to Arg-221, H0059: 2, H0690: 2, Pro-229 to Glu-237, H0660: 2, S0328: 2, L0756: 2, L0743: 2, L0769: 1, H0647: 1, H0647: 1, L0662: 1, L0769: 1, L0806: 1, L0803: 1, L0809: 1, L0803: 1, L0809: 1, L0783: 1, L0809: 1, L0664: 1, H0682: 1, L0783: 1, L0809: 1, L0783: 1, L0809: 1, L0783: 1, L0809: 1, L0564: 1, H0682: 1, L0783: 1, L0809: 1, L0783: 1, L0809: 1, L0783: 1, L0809: 1, L0783: 1, L0564: 1, H0682: 1, L0783: 1, L0564: 1, L0596: 1, L0599: 1. | Arg-12 to Arg-19, His-62 to Leu-73, Ser-103 to Thr-111, Asn-147 to Val-158, Phe-207 to Trp-213, Lys-243 to Lys-276, Ala-281 to Cys-289, Pro-297 to Pro-302, Glu-315 to Asp-324 |
| | 2498 | 2499 |
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| | | H0341: 33, S0126: 19, 1 | 0471: 17, H0087: 17, | 10659: 17, H0670: 17, | H0333: 14, H0024: 14, | 10685: 13, S0114: 13, | S0358: 13, H0648: 13, | 0046: 12, L0742: 12, | L0588: 12, S0278: 11, | 10594: 11, H0352: 11, | S0134: 10, L0748: 10, | S0116: 9, H0620: 9, | .0754: 9, L0750: 9, | 10422: 9, H0255: 8, | S0007: 8, S0132: 8, | 10318: 8, H0081: 8, | H0012: 8, H0083: 8, | S3012: 8, S3014: 8, | H0543: 8, H0265: 7, | H0009: 7, H0039: 7, | S0027: 7, S0028: 7, | H0295: 6, H0657: 6, | .0622: 6, L0540: 6, | 10436: 6, H0576: 6, | H0624: 5, S0360: 5, | H0351: 5, L0623: 5, | H0069: 5, H0530: 5, |
| His-336 to Trp-342, Arg-371 to Lys-377, Asp-416 to Thr-432 | Pro-1 to Lys-7. | Val-105 to Ile-113, | Asp-128 to Phe-137, L0471: 17, H0087: 17, | Arg-145 to Arg-151. H0659: 17, H0670: 17, | E | <u> </u> | <u> </u> | <u>S</u> | <u></u> | <u> </u> | <u>×</u> | <u>'S</u> | <u> </u> | <u> </u> | <u> </u> | H | H | <u>X</u> | H | Ħ | <u>)S</u> | | <u> </u> | H | <u> </u> | Ĭ. | H |
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| H0123: 5, H0014: 5, | H0687: 5, H0040: 5, | H0412: 5, H0413: 5, | H0059: 5, H0100: 5, | L0521: 5, L0526: 5, | H0666: 5, H0672: 5, | H0651: 5, S0380: 5, | H0134: 5, L0604: 5, | H0686: 4, H0306: 4, | H0559: 4, H0597: 4, | H0266: 4, L0764: 4, | S0044: 4, L0777: 4, | L0731: 4, H0445: 4, | H0423: 4, H0556: 3, | S0040: 3, H0294: 3, | H0402: 3, S0376: 3, | H0392: 3, H0486: 3, | T0040: 3, S0280: 3, | H0581: 3, H0327: 3, | H0041: 3, H0252: 3, | H0032: 3, H0068: 3, | H0135: 3, H0616: 3, | H0063: 3, T0041: 3, | H0561: 3, H0633: 3, | L0767: 3, L0776: 3, | L0783: 3, L0809: 3, | H0684: 3, S0037: 3, | L0747: 3, H0343: 3, | H0542: 3, H0170: 2, | T0002: 2, H0159: 2, |
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| S0218: 2, S0212: 2, | H0305: 2, H0459: 2, | H0125: 2, H0637: 2, | S0045: 2, H0369: 2, | H0370: 2, H0574: 2, | H0492: 2, H0101: 2, | H0013: 2, H0421: 2, | H0231: 2, H0046: 2, | H0457: 2, H0051: 2, | H0354: 2, H0099: 2, | H0188: 2, H0292: 2, | H0284: 2, H0286: 2, | S0022: 2, S0214: 2, | H0428: 2, H0031: 2, | H0553: 2, L0142: 2, | H0617: 2, H0124: 2, | S0036: 2, H0038: 2, | T0042: 2, S0016: 2, | H0359: 2, H0625: 2, | L0065: 2, H0509: 2, | H0646: 2, S0144: 2, | H0529: 2, L0520: 2, | L0762: 2, L0770: 2, | L0768: 2, L0775: 2, | L0655: 2, L0542: 2, | L0384: 2, L0545: 2, | L0530: 2, L0666: 2, | H0689: 2, S0330: 2, | L0740: 2, L0751: 2, | L0786: 2, L0755: 2, |
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| H044 | L0591 | L0603 | H0668 | H017 | , S0402 | H065 | S0001 | , H066 | , S042 | , S040 | , H015 | , H039 | , H043 | , H060 | , H045 | , T006 | , H025 | , H05 | , H05 | 1, S018 | , H005 | l, H02(| , T011 | 1, H05 | 1, H00 | 1, T000 | 1, H00 | 1, S00 | 1, S03. |
| .0757: 2, H0444: 2, | 0596: 2, L0591: 2, | .0361: 2, L0603: 2, | 011:2, | 008: 2 | H0222: 1, S0402: 1, | 049: 1, | 785: 1, | 1 (69) | 664: 1 | 675: 1 | 580: 1 | H0208: 1, H0393: 1 |)411:1 | H0438: 1, H0600: 1, | 3497: 1 | 3490: 1 | F0109: 1, H0250: 1 | 0635: 1 | H0108: 1, H0575: 1 | H0004: 1, S0182: | S0049: 1, H0052:] | H0309: 1, H0204: 1 | 0115: 1 | H0546: 1, H0545: 1 | H0086: 1, H0050: 1 | H0350: 1, T0003: 1, | H0578: 1, H0015: | H0373: 1, S0051: 1 | H0078: 1, S0336: |
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| H0290: 1, S0003: 1, | 10006: 1, H0604: 1, | H0030: 1, H0644: 1, | L0143: 1, H0113: 1, | 1, H0316: 1, | 1, H0634: 1, | 1, H0269: 1, | 1, S0038: 1, | H0494: 1, S0150: 1, | 1, H0647: 1, | H0649: 1, H0281: 1, | 1, S0210: 1, | 1, L0763: 1, | 1, L0631: 1, | 1, L0796: 1, | 1, L0646: 1, | | 1, L0803: 1, | | | | 1, L0559: 1, | | _ | 1, L0665: 1, | | 1, H0435: 1, | 1, S0378: 1, | H0518: 1, S0454: 1, |
| H0290: | T0006: | | L0143: | S0366: | H0533: | H0116: | H0079: | H0494: | H0130: | H0649: | S0142: 1, | S0422: 1, I | L0371: 1 | 10769: | L0761: | L0662: | L0381: 1 | L0650: | L0653: | L0527:] | L0512: 1 | 1.0659: | L0782: | L0532: 1 | S0052: | H0682: 1, | H0660: 1 | H0518: |
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| H0521: 1, S0118: 1, L0752: 1, L0753: 1, L0759: 1, H0595: 1, L0605: 1, L0589: 1, L0605: 1, L0599: 1, S0026: 1, H0653: 1, H0217: 1, S0194: 1, S0424: 1, S3018: 1, S0384: 1, S0446: 1 and H0293: 1. | L0748: 3, H0486: 1, H0428: 1, H0034: 1, H0690: 1, H0435: 1, H0658: 1, H0653: 1 and L0465: 1. | Pro-107 to Gly-118, L0777: 17, L0766: 11, Gly-128 to Ser-140, S0360: 10, L0748: 10, Asp-148 to Glu-166, H0620: 8, H0124: 8, Ala-173 to Ala-186, L0770: 8, H0295: 7, Arg-196 to Ala-210, S0408: 7, S0046: 6, Ile-219 to Trp-228, L0775: 6, L0659: 6, Asn-238 to Met-20775: 6, L0595: 6, S0278: 5, S0440: 5, L0769: 5, L0769: 5, L0769: 5, L0769: 5, L0766: 5, L0731: 5, H0556: 4, H0559: 4, H0579: 4, H0559: 4, H0579: |
| 出口 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 | Lys-1 to Asn-10, Phe-40 to Gly-55, Asn-61 to Arg-66. I | Pro-107 to Gly-118, L0777: 17, L0766: Gly-128 to Ser-140, S0360: 10, L0748: 1 Asp-148 to Glu-166, H0620: 8, H0124: 8, Ala-173 to Ala-186, L0770: 8, H0295: 7, Arg-196 to Ala-210, S0408: 7, S0046: 6, Asn-238 to Met-L0744: 6, L0595: 6, S0278: 5, S0440: 5, L0657: 5, L0665: 5, L0657: 5, L0666: 5, L0671: 5, H0580: 4, H0580: 4, H0580: 4, H0580: 4, H0580: 4, H0559: 4, H05 |
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| H0100: 4, L0637: 4 | JO665: 4, H0144: 4, | S0126: 4, L0754: 4, | .0747: 4, L0758: 4, | ,0599: 4, H0624: 3, | H0341: 3, S0442: 3, | 96 | H0012: 3, H0644: 3, | H0087: 3, H0551: 3, | S0144: 3, L0763: 3, | .0646: 3, L0662: 3, | L0774: 3, | .0776: 3, L0664: 3, | 5.3 | H0521: 3, S0406: 3, | S3012: 3, S0028: 3, | 1:3 | 10445: 3, H0665: 3, | H0542: 3, H0543: 3, | F0049: 2, H0657: 2, | H0661: 2, H0664: 2, | S0420: 2, H0618: 2, | S0010: 2, H0544: 2, | H0178: 2, H0024: 2, | H0083: 2, H0510: 2, | H0428: 2, H0622: 2, | H0031: 2, H0617: 2, | H0616: 2, H0063: 2, | H0413: 2, | H0494: 2, H0560: 2, |
| 963 | [014 | 07.5 | 075 | 1062 | <u>\$</u> | H0550: 3, H0599: 3 | 106 | 1055 | 920 | 990 | 077 | 990 | 1067 | 8 | 902 | .0740: 3, L0751: 3 | 99 | 1054 | 9 | 9901 | 9 | 8 | 9 | [051 | 1062 | 1061 | 90 | <u>₹</u> | 1056 |
| 4,1 | 4, H | 4, | 4, | 4, H | 3,8 | 3, F | 3,1 | 3, F | 3,1 | 3 , 1 | 3,1 | 3,1 | 3, F | 3,8 | S | 3, L | 3,1 | 3,1 | 2, H | 2, E | 2, H | 2, H | 2, H | , H, | 2, H | 2, H | 2, H | 2, H | 2, 王 |
| 8 | 65: | 26: | 47: | 8 | 41: | 500 | 12: | 87: | 4. | 46 | .0794: 3, | 76: | 8 | 21: | 12: | 6 | 55: | 5. | 6. | 61: | 8 | 10: | 78: | 83: | 28: | 31: | 16: | H0433: 2, | 4. |
| 臣 | <u>ട്ട</u> | <u>S</u> 01 | <u> 10</u> | <u>S</u> | <u>H</u> | <u>H</u> | <u>H</u> | E | <u>S</u> 01 | <u>10</u> | <u>1</u> 2 | 13 | HOH | H05 | S30 | 107 | H04 | HOS | <u> </u> | H | 86 | 800 | H01 | H00 | H04 | HOCH | H06 | H 2 | H 2 |
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| L0651: 2, L0803: 2, L0651: 2, L0378: 2, L0806: 2, L0809: 2, L0663: 2, H0547: 2, H0658: 2, S0330: 2, H0658: 2, S0330: 2, H0658: 2, S0330: 2, L0742: 2, L0749: 2, L0750: 2, L0749: 2, L0750: 2, L0759: 2, L0750: 2, L0759: 2, L0750: 2, L0759: 2, L0757: 2, H0444: 2, L0757: 2, H0444: 2, L0757: 2, H0769: 1, H0667: 1, S040: 1, S0134: 1, L0778: 1, H0663: 1, S0418: 1, S0356: 1, S0376: 1, H0401: 1, H0359: 1, H0401: 1, H0370: 1, H0401: 1, H0359: 1, H0401: 1, H0359: 1, H0013: 1, H0550: 1, R0013: 1, H0056: 1, R0013: 1, H0066: 1, R0013: |
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| . S0474: 1. | H0251: 1, | H0204: 1, | 1, H0597: 1, | H0546: 1, | H0081: 1, | H0373: 1, | T0010: 1, | S6028: 1, | S0334: 1, | S0250: 1, | S0214: 1, | 10328: 1, H0213: 1, | H0169: 1, | S0366: 1, | , H0598: 1, | H0591: 1, | H0056: 1, | S0464: 1, | S0150: 1, | S0426: 1, | L0772: 1, | L0372: 1, | L0363: 1, | L0649: 1, | L0650: 1, | _ | L0635: 1, | L0526: 1, | L0519: 1, |
| H0318: 1. | H0196: 1, H0251: | H0085: 1, | H0596: 1, | H0327: 1, | H0086: 1, H0081: 1 | H0050: 1, H0373: | S0051: 1, T0010: | H0375: 1, | H0271: 1, | H0284: 1, S0250: 1, | S0003: 1, | H0328: 1, | H0628: 1, H0169: | H0674: 1, S0366: | H0316: 1, | H0163: 1, H0591: | H0038: 1, H0056: | H0561: 1, S0464: | S0466: 1, S0150: | S0142: 1, | H0529: 1, L0772: | L0373: 1, L0372: | 1,0771: 1, | L0768: 1, L0649: | L0804: 1, | L0375: 1, | 1.0658: 1, | L0542: 1, | L0518: 1, L0519: |
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| | 107741, 113900, 122720, 122720, 126340, 126391, 160900, 172400, 172400, 173850, 180901, |
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| · | 19913.1- 913.2 |
| L0529: 1, L0647: 1, S0428: 1, H0698: 1, H0702: 1, L0565: 1, H0620: 1, H0682: 1, H0682: 1, H0684: 1, H0659: 1, H0659: 1, H0659: 1, H0659: 1, H0670: 1, S0328: 1, H0670: 1, S0378: 1, S0448: 1, E0741: 1, L0755: 1, S0434: 1, L0597: 1, L0589: 1, L0608: 1, L0589: 1, L0589: 1, L0589: 1, S0194: 1, S0276: 1, S0194: 1, S0276: 1, H0423: 1 and H0352: 1. | L0777: 14, L0748: 11, L0747: 7, L0752: 7, H0295: 6, L0769: 6, L0749: 4, L0755: 4, H0341: 3, H0580: 3, H0581: 3, H0529: 3, L0770: 3, L0751: 3, L0770: 3, L0751: 3, L0605: 3, L0601: 3, L0615: 2, S0116: 2, H0402: 2, S0132: 2, H0309: 2, H0081: 2, |
| | Asp-45 to Pro-56, Thr-86 to Ser-91, Pro-127 to Arg-133, Asp-201 to Gln-215. |
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| 207750, | 221770, | 248600, | 258501, | 600918, | 602716 | | | | | | | | | | | | - | | | | | | | | | | | | |
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| H0012: 2, H0031: 2, | H0087: 2, H0494: 2, | S0344: 2, L0763: 2, | L0764: 2, L0766: 2, | L0368: 2, L0759: 2, | L0588: 2, L0591: 2, | H0170: 1, H0395: 1, | S0040: 1, H0484: 1, | H0306: 1, S0358: 1, | S0360: 1, H0637: 1, | S0278: 1, H0550: 1, | H0249: 1, H0574: 1, | L0623: 1, H0101: 1, | H0013: 1, H0036: 1, | H0421: 1, S0049: 1, | H0545: 1, H0041: 1, | H0009: 1, H0050: 1, | H0620: 1, H0023: 1, | • | H0039: 1, L0142: 1, | H0617: 1, S0364: 1, | H0135: 1, H0551: 1, | H0412: 1, H0560: 1, | H0625: 1, H0561: 1, | S0150: 1, H0646: 1, | S0142: 1, L0772: 1, | • | L0771: 1, L0773: 1, | Ę. | L0389: 1, L0775: 1, |
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| | 120550, 120570, 120575, 121800, 133200, 133200, 171760, 171760, 255800 |
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| | 1p34.2 |
| L0376: 1, L0783: 1, L0532: 1, L0666: 1, L0665: 1, H0689: 1, H0659: 1, H0658: 1, H0670: 1, H0660: 1, H0648: 1, H0672: 1, S0330: 1, H0521: 1, S0044: 1, H0134: 1, S0027: 1, L0740: 1, L0731: 1, H0445: 1, | L0740: 11, L0751: 11, L0731: 7, L0758: 7, H0659: 6, H0672: 6, L0748: 6, L0759: 6, H0251: 5, H0441: 4, L0766: 4, L0806: 4, S0040: 3, H0551: 3, H0412: 3, S0422: 3, L0774: 3, L0775: 3, L0774: 3, L0775: 3, L0752: 3, L0775: 3, L0752: 3, L07321: 3, L0752: 3, L07321: 3, L0752: 3, L07321: 3, L0752: 3, L07321: 3, L0752: 3, L07521: 3, L0752: 3, L07521: 3, H0341: 2, S0298: 2, S0358: 2, S0360: 2, S0358: 2, H0009: 2, H0318: 2, H0009: 2, H0024: 2, H0083: 2, S0214: 2, H0617: 2, |
| <u> </u> | Lys-75 to Lys-80, Leu-138 to Tyr-144, Tyr-153 to Pro-159. |
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| H0606: 2, H0087: 2, | H0059; 2, H0494; 2, | .0764: 2, L0771: 2, | .0662: 2, L0767: 2, | .0768: 2, L.0649: 2, | .0665: 2, H0144: 2, | H0519: 2, H0593: 2, | 10631: 2, S0027: 2, | .0749: 2, L0589: 2, | .0605: 2, L0361: 2, | .0603: 2, H0149: 1, | H0265: 1, T0002: 1, | 0114: 1, T0049: 1, | H0657: 1, H0663: 1, | H0638: 1, H0125: 1, | S0356: 1, S0045: 1, | S0132: 1, L0717: 1, | H0351: 1, H0411: 1, | H0586: 1, H0587: 1, | H0497: 1, H0643: 1, | ,0040: 1, H0427: 1, | S0665: 1, S0182: 1, | H0150: 1, H0123: 1, | H0081: 1, S0316: 1, | 10006: 1, H0644: 1, | S0036: 1, H0090: 1, | 70067: 1, T0041: 1, | .0475: 1, H0561: 1, | S0150: 1, H0647: 1, |
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| | 21q11.2- q21.1 | : | |
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| | | Phe-2 to Asp-14, Leu-35 to Ile-42, Leu-63 to Lys-69, Thr-79 to Glu-84, Ile-137 to Glu-149, Thr-195 to Asp-200, Lys-216 to Glu-222, Asn-228 to Asn- | |
| | 2506 | 2507 | 2508 |
| | 12 - 317 | 1 - 768 | 860 - 1477 |
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| 6, AR060: | 5, AR089: | AR039: 2, AR104: 1 | L0749: 4, L0794: 3, | H0658: 3, H0046: 2, | L0803: 2, L0666: 2, | L0663: 2, L0777: 2, | H0556: 1, H0351: 1, | H0253: 1, H0014: 1, | T0023: 1, H0038: 1, | H0477: 1, H0412: 1, | L0370: 1, L0763: 1, | L0769: 1, L0639: 1, | L0800: 1, L0768: 1, | L0649: 1, L0804: 1, | L0776: 1, L0367: 1, | L0438: 1, H0435: 1, | H0670: 1, H0666: 1, | H0522: 1 and L0759: 1. | S0192: 130, L0659: 16, | L0666: 10, S0360: 7, | L0771: 6, S0194: 5, | L0662: 4, S0196: 4, | L0665: 3, H0251: 2, | H0252: 2, L0598: 2, | L0638: 2, L0637: 2, | L0649: 2, L0783: 2, | H0684: 2, H0170: 1, | H0687: 1, S0250: 1, |
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| | Phe-11 to Gly-16, Gln-44 to Ile-53. | Ser-1 to Cys-12, Gly-16 to Val-29. | 41. |
| : | 2510 | 2511 | 2512 |
| | 392 - 550 | 198 - 302 | 111 - 683 |
| | 335 | 336 | 337 |
| | 1004583 | 1004619 | 1004625 |
| | HODFB06 | HODJA76 | HODJY 60 |

| | | 180297, 230450, 263200, 601690 | |
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| | | 6p12-p11.1 | · |
| H0039: 1, H0031: 1, H0553: 1, L0055: 1, T0067: 1, H0412: 1, H0494: 1, H0561: 1, L0763: 1, L0772: 1, L0771: 1, L0764: 1, L0771: 1, L0766: 1, L0790: 1, L0532: 1, L065: 1, H0144: 1, H0520: 1, H0648: 1, H0658: 1, H0648: 1, H0672: 1, S0044: 1, H0672: 1, S0044: 1, H0673: 1, and S0424: 1, H0673: 1, H0648: 1, | H0615: 2 | S0354: 1, H0083: 1, H0615: 1 and H0665: 1. | L0752: 14, L0777: 12, L0754: 11, L0731: 11, H0692: 10, L0758: 8, L0766: 6, L0759: 6, S0358: 5, L0809: 5, S0222: 4, S0003: 4, H0328: 4, L0769: 4, L0771: 4, L0803: 4, |
| | His-7 to Gly-17, Phe-24 to Trp-40. | Gln-24 to Leu-29, His-38 to Asn-50, Gly-117 to Tyr-128, Ser-135 to Pro-147. | · |
| · | 2513 | 2514 | 2515 |
| | 1 - 231 | 1-711 | 518 - 1294 |
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| .0740: 4, S0194: 4, | H0068: 3, H0494: 3, | 74: 3, L0775: 3, | L0776: 3, H0521: 5, r 0747: 3 1 0749: 3. | L0757: 3, H0170: 2, | 713: 2, S0444: 2, | H0427: 2, H0156: 2, | S0010: 2, L0157: 2, | H0687: 2, T0006: 2, | H0628: 2, H0169: 2, | H0598: 2, L0662: 2, | .0768: 2, L0805: 2, | .0666: 2, L0438: 2, | H0547: 2, H0670: 2, | H0648: 2, H0539: 2, | .0748: 2, L0589: 2, | ,0599; 2, H0556; 1, | F0002: 1, L0002: 1, | H0341: 1, H0720: 1, | S0400: 1, H0483: 1, | 402: 1, H0638: 1, | S0442: 1, S0376: 1, | H0733: 1, S0132: 1, | H0645: 1, L0717: 1, | H0431: 1, H0331: 1, | H0486: 1, H0013: 1, | H0036: 1, H0590: 1, | H0052: 1, H0309: 1, |
| 7,001 | 00H | 1.07 | 107 | 101 | H07 | H04 | 008 | HOG | HOC | ;0H | 100 | 100 | OH | OH | <u></u> | 1700 | TO | HO | 08 | OH) | 08 | HC | OH |)HI | H | H |)H |
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| H0327: 1, H0050: 1, | .0471: 1, H0024: 1, | S0388: 1, H0510: 1, | H0266: 1, H0271: 1, | H0428: 1, H0039: 1, | H0644: 1, L0055: 1, | H0212: 1, H0212: 1, | S0036: 1, H0038: 1, | H0272: 1, H0366: 1, | S0450: 1, S0440: 1, | S0210: 1, S0422: 1, | S0002: 1, L0598: 1, | .0638: 1, L.0667: 1, | J0772: 1, L0646: 1, | .0773: 1, L0648: 1, | .0626: 1, L0794: 1, | .0804: 1, L.0554: 1, | .0806: 1, L0807: 1, | .0559: 1, L.5622: 1, | .5623: 1, L0789: 1, | .0663: 1, S0374: 1, | S0126: 1, S0122: 1, | H0658: 1, S0380: 1, | H0710: 1, H0478: 1, | S0027: 1, S0206: 1, | .0439: 1, L0750: 1, | .0756: 1, L0779: 1, | H0445: 1, H0343: 1, | S0434: 1, L0591: 1, |
| | <u> </u> | <u>v</u> | <u> </u> | • | | <u> </u> | <u>.</u> | | <u>S2</u> | <u> </u> | <u> </u> | | # | | | <u>.</u> | | | | L | S |) 1 | idd . | S | | <u> </u> | <u>i-Li</u> | S |
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| L0608: 1, L0362: 1, H0668: 1, S0026: 1, H0653: 1 and H0423: 1. | | AR096: 1, AR089: 1, AR104: 0, AR055: 0, AR060: 0, AR061: 0 L0761: 3, L0439: 3, L0747: 3, L0766: 2, H0659: 2, L0779: 2, |
| | | Ala-1 to Gly-23, Gly-26 to Leu-32, Leu-53 to Leu-65, Gln-145 to Thr-151. |
| | 2516 | 2517 |
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| L0777: 2, H0170: 1, S0360: 1, H0550: 1, H0023: 1, H0018: 1, H0641: 1, L0763: 1, L0769: 1, L0764: 1, L0803: 1, L0774: 1, L0655: 1, L0666: 1, H0648: 1 and H0436: 1. | H0328: 1 and H0615: 1. | L0764: 9, L0747: 6, L0766: 5, L0070: 5, L0748: 4, L0662: 3, L0749: 3, L0758: 3, L0759: 3, L0601: 3, H0574: 2, H0014: 2, H0615: 2, L0529: 2, H0666: 2, L0529: 2, H0566: 1, L0529: 2, H0568: 1, R0356: 1, H0583: 1, S0222: 1, H0486: 1, L0021: 1, H0581: 1, H0309: 1, H0545: 1, H0309: 1, H0545: 1, H0328: 1, H0674: 1, L0456: 1, H0674: 1, L0456: 1 | S0426: 1, L0763: 1, L0769: 1, L0646: 1, |
| | Ser-1 to Asp-19. | | |
| | 2518 | 2519 | |
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| 20641: 1, L0645: 1, 20773: 1, L0768: 1, 20794: 1, L0551: 1, 20774: 1, L0775: 1, 20805: 1, L0659: 1, 20658: 1, L0659: 1, 20664: 1, H0521: 1, 20664: 1, H0521: 1, 20677: 1, L0589: 1, 20757: 1, L0589: 1, | L0794: 7, L0776: 4, L0740: 4, H0046: 3, L0805: 3, L0749: 3, H0624: 2, S0282: 2, L0157: 2, H0615: 2, L0778: 2, L0747: 2, L0777: 2, L0731: 2, H0686: 1, H0294: 1, H0486: 1, H0349: 1, H0328: 1, H0178: 1, H0328: 1, L0471: 1, L0792: 1, L0662: 1, L0792: 1, L0769: 1, |
| | Arg-6 to Gly-11, Pro-18 to Glu-33, Ala-48 to Asp-68. |
| | 2520 |
| | 3 - 236 |
| | 345 |
| | 1004660 |
| | HODIQ24 |

| S0126: 1, H0670: 1, | L0742: 1, L0743: 1, | L0754: 1, L0779: 1, | L0780: 1 and L0759: 1. | H0581: 8, H0422: 7, | L0766: 5, H0521: 4, | Leu-73 to Arg-78, L0588: 4, S0360: 3, | H0486: 3, L0663: 3, | H0436: 3, S0434: 3, | Thr-166 to Cys-173, H0583: 2, S0298: 2, | S0354: 2, S0408: 2, | H0046: 2, H0622: 2, | H0090: 2, H0494: 2, | L0761: 2, L0655: 2, | L0659: 2, H0518: 2, | H0522: 2, H0696: 2, | L0777: 2, H0445: 2, | H0423: 2, H0556: 1, | S0430: 1, H0650: 1, | H0657: 1, S0116: 1, | S0356: 1, S0376: 1, | H0580: 1, H0586: 1, | L0586: 1, H0250: 1, | L0021: 1, T0071: 1, | H0596: 1, H0644: 1, | H0264: 1, H0412: 1, | H0561: 1, S0440: 1, | H0641: 1, H0649: 1, | L0770: 1, L5565: 1, | L0372: 1, L0642: 1, |
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| | | | | Asn-32 to Glu-42, | Leu-59 to Ala-66, | Leu-73 to Arg-78, | Leu-100 to Leu-110, | Asp-155 to Thr-161, H0436: 3, S0434: 3, | Thr-166 to Cys-173, | Leu-214 to Ser-220, S0354; 2, S0408; 2, | Ser-227 to Lys-232, | Arg-236 to Gly-242, H0090: 2, H0494: 2, | Phe-257 to Asp-264, L0761: 2, L0655: 2, | Arg-309 to Ala-314. | • | • | | • | - | | | | | | | | | | |
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| | 104311, 109150, 182600, 245200, 601208 |
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| | 14q24.3 |
| L0387: 1, L0381: 1, L0775: 1, L0527: 1, L0664: 1, L0665: 1, S0216: 1, S0374: 1, L0565: 1, H0684: 1, H0435: 1, H0659: 1, H0648: 1, H0672: 1, H0710: 1, H0555: 1, L0748: 1, L0754: 1, L0749: 1, L0756: 1, H0595: 1 and H0543: 1. | Hubber 37, Hubber 37, Hubber 36, 14q24.3 Ala-30 to Ala-38, Hubber 32, Hubber 31, Ala-58 to Ser-69, S0434: 21, S0406: 17, Ser-138 to Pro-143, Hubber 31, S0360: 13, Euu-182 to Lys-198, Hubber 31, Hubber 31, Lou-229, Hubber 31, Lubber |
| | His-1 to Arg-20, H0650: Ala-30 to Ala-38, H0650: 2 Ala-58 to Ser-69, So434: 2 Ser-138 to Pro-143, H0656: Leu-182 to Lys-198, H0411: Cys-204 to Thr-212, S0280: 1 Ala-217 to Leu-229, H0553: Leu-314 to Phe-319, H0713: Ser-327 to Ser-329, H0555: Arg-409 to Ser-423, H0717: Arg-409 to Ser-423, H0717: L0748: L0748: H0644: |
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| S0442: 5, H0580: 5, | H0156: 5, H0457: 5, | H0615: 5, H0622: 5, | H0063: 5, L0776: 5, | 10648: 5, H0263: 4, | H0179: 4, H0031: 4, | H0163: 4, L0764: 4, | .0649: 4, L0438: 4, | H0672: 4, L0439: 4, | , L0600: 4, | S0116: 3, S0444: 3, | H0619: 3, H0421: 3, | H0032: 3, S0438: 3, | S0440: 3, L0598: 3, | , L0809: 3, | _0532: 3, L0664: 3, | .0665: 3, H0689: 3, | S0378: 3, L0756: 3, | H0624: 2, H0556: 2, | H0402: 2, S0356: 2, | S0376: 2, S0046: 2, | S0222: 2, H0574: 2, | H0635: 2, H0575: 2, | H0036: 2, H0597: 2, | H0544: 2, H0046: 2, | H0123: 2, H0050: 2, | H0014: 2, H0201: 2, | F0010: 2, H0355: 2, | H0135: 2, T0004: 2, | S0344: 2, S0002: 2, |
| S0442: 5, | H0156: 5 | H0615: 5 | H0063: 5 | H0648: 5 | H0179: 4 | H0163: 4 | L0649: 4, | H0672: 4 | H0677: 4 | S0116: 3, | H0619: 3 | H0032: 3 | S0440: 3, | L0803: 3, | L0532: 3, | L0665: 3, | S0378: 3, | H0624: 2 | H0402: 2 | S0376: 2, | 80222: 2, | H0635: 2 | H0036: 2 | H0544: 2 | H0123: 2 | H0014: 2, | T0010: 2, | H0135: 2, | S0344: 2, |
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| 0769: 2, L0372: 2, | 50328; 2, H0539; 2, | .0602: 2, H0521: 2, | H0479: 2, L0743: 2, | ,0744: 2, L0746: 2, | .0749: 2, L.0779: 2, | ,0758: 2, S0436: 2, | H0265: 1, H0685: 1, | 0716: 1, T0087: 1, | S6024: 1, S0430: 1, | 0212: 1, H0669: 1, | H0662: 1, H0638: 1, | 0418: 1, L0005: 1, | H0645: 1, H0351: 1, | S6022: 1, H0369: 1, | 10550: 1, H0441: 1, | H0409: 1, H0600: 1, | 10586: 1, H0587: 1, | .0586: 1, H0244: 1, | • | H0590: 1, H0309: 1, | H0231: 1, H0150: 1, | H0081: 1, L0471: 1, | H0620: 1, H0024: 1, | ` 🚅 | H0060: 1, H0688: 1, | H0428: 1, H0039: 1, | T0023: 1, L0142: 1, | H0168: 1, H0169: 1, |
| 07. | <u> </u> | 3 | H | <u>ਬ</u> | <u> </u> | <u>고</u> | | | <u>×</u> | <u>S</u> | H | Š | <u> </u> | <u> </u> | | <u>E</u> | <u> </u> | <u>.</u> | <u> </u> | <u>.11-1</u> | <u>;+-</u> ; | وخور | بلو | | | . | | |
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| H0068: 1, H0038: 1, H055: 1, S0294: 1, H0509: 1, H0131: 1, L0762: 1, L0763: 1, L0371: 1, L0638: 1, L0371: 1, L0638: 1, L0571: 1, L0768: 1, L0632: 1, L0523: 1, L0652: 1, L0783: 1, L0653: 1, L0783: 1, L0653: 1, L0647: 1, H0693: 1, L0647: 1, H0693: 1, L0352: 1, H0693: 1, L0352: 1, H0699: 1, S0360: 1, S0330: 1, S0360: 1, S0190: 1, S0404: 1, H0478: 1, L0611: 1, S0206: 1, L0740: 1, L0780: 1, L0740: 1, H0343: 1, L0599: 1, L0361: 1, S0462: 1 and S0260: 1, L0740: 1, | H0052: 1, H0012: 1, | H02/1: 1, H0165: 1, H0672: 1, H0521: 1, | L0439: 1, L0754: 1 and H0423: 1. |
| | Pro-52 to Gly-58. | | |
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| 215700, 223360, 268900, 601850 | 147450, 176261, 253270, 601399 | 120950, 120960, 138140, 178300, 187040, 600101, 600650, 600650, 600652, |
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| | 21922.1- 922.2 | 1p32 |
| | 7, 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, | L0755: 11, L0766: 4, L0747: 4, L0764: 2, L0663: 2, H0556: 1, H0686: 1, S0444: 1, S0408: 1, H0580: 1, H0722: 1, H0290: 1, L0483: 1, H0165: 1, H0494: 1, H0132: 1, S0150: 1, S0208: 1, L0772: 1, L0768: 1, |
| | Lys-1 to Phe-58, L0748: 11, H059 Pro-62 to Ser-105, L0779: 2, L0758: 3 Arg-118 to Asp-154,H0624: 1, S0342: Pro-181 to Pro-187, S0045: 1, H0351: Ala-215 to Asp-221, H0427: 1, S0010: Pro-228 to Phe-240, H0052: 1, H0251: Pro-264 to Ser-269, N0006: 1, L0771: Ser-281 to Asp-291, H0266: 1, H0615: Glu-301 to Phe-314, H0622: 1, H0031: H0090: 1, H0038: L0769: 1, L0774: L0765: 1, H0553: H0521: 1, H0555: L0744: 1, L0777: L0750: 1 and L077: L0750: | Lys-5 to Leu-10, Ser-20 to Glu-30, Leu-32 to Thr-37. |
| | 2524 | 2525 |
| | 2115 - 1081 | 3 - 1013 |
| | 349 | 350 |
| | 1005236 | 1005359 |
| | HODIY29 | HOELP29 |

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| | 138079, 138079, 139191, 142959, 153880, 180104, 600994, 601649 | | |
| , | 7p15 | | - |
| L0784: 1, L0805: 1, H0547: 1, S0126: 1, H0659: 1, H0660: 1, H0627: 1, L0749: 1, L0779: 1, L0731: 1, L0757: 1 and H0668: 1. | S0358: 3 S0354: 1, S0354: 1, S0408: 1, H0318: 1 H0412: 1 L0666: 1, L0666: 1, L0588: 1, L0588: 1, L0588: 1, H0423: 1, | AR089: 5, AR096: 5, AR053: 4, AR060: 3, AR039: 3, AR033: 3, AR055: 2, AR104: 2, AR061: 1 H0583: 1 and H0036: | L0777: 8, L0809: 4, L0749: 4, H0038: 3, L0769: 3, L0783: 3, |
| | Lys-9 to Thr-17, Lys-41 to Asn-55, Los-57 to Asn-65, Val-67 to Asn-79, S0354: 1, S0360: Val-67 to Asn-79, S0408: 1, S0007: Ile-122 to Cys-132, H0318: 1, S0474: Leu-135 to Ala-147, H0596: 1, H0266: Gln-175 to Ala-197, H0412: 1, L0656: Pro-253 to Gly-264, Lose-66: 1, L0658: Pro-288 to Glu-296, H0144: 1, H0648: Gln-312 to Val-321: S0044: 1, L0755: L0608: 1, L0362: H0423: 1, | | Thr-34 to Ser-46. |
| | 2526 | 2527 | 2528 |
| | 2 - 1015 | 2 - 781 | 68 - 205 |
| | 351 | 352 | 353 |
| | 1005384 | 1005511 | 1005843 |
| | HWLFG04 | HYAAC49 | HC00A71 |

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| | 22q11.23 |
| L0740: 3, H0581: 2, H0546: 2, H0024: 2, L0521: 2, L0375: 2, H0670: 2, L0748: 2, L0758: 2, L0759: 2, H0171: 1, S0360: 1, H052: 1, H0424: 1, H0652: 1, H0424: 1, H0652: 1, H0494: 1, L0763: 1, L0766: 1, L0763: 1, L0766: 1, L0763: 1, L0565: 1, L0663: 1, L0565: 1, H0658: 1, L0439: 1, L0750: 1, L0753: 1 and | L0665: 4, L0779: 3, L0646: 2, L0800: 2, L0650: 2, L0659: 2, S0040: 1, S0442: 1, S0045: 1, H0619: 1, H0052: 1, H0024: 1, S0051: 1, H0604: 1, L0639: 1, L0761: 1, L0639: 1, L0761: 1, L0771: 1, L0766: 1, L0803: 1, L0776: 1, |
| | Ser-1 to Ser-7, Gly-21 to Arg-37. |
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| 20657: 1, L0656: 1, 20783: 1, L0791: 1, 20666: 1, L0663: 1, 20438: 1, H0547: 1, H0672: 1, H0436: 1, 20748: 1, L0747: 1, 20749: 1, L0777: 1, 20758: 1 and L0608: 1. | L0439: 13, L0777: 9, .0717: 8, L0748: 6, .0659: 5, L0747: 4, | 10318: 3, L0665: 3, L0779: 3, H0170: 2, H0212: 2, L0455: 2, L0764: 2, L0662: 2, | 20746: 2, L0755: 2, 20758: 2, L0759: 2, 20595: 2, H0624: 1, | H0661: 1, H0402: 1, S0046: 1, H0333: 1, T0109: 1, H0013: 1, S0280: 1, L0021: 1, | H0590: 1, H0581: 1, H0374: 1, H0596: 1, L0471: 1, H0014: 1, S0051: 1, S0003: 1, |
| | Lys-5 to Met-10, Lys-79 to Ser-86, Ser-145 to Leu-154. I | <u> </u> | <u> </u> | | <u> </u> |
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| H0328: 1, H0617: 1, H0040: 1, H0412: 1, H0494: 1, H0641: 1, L0761: 1, L0645: 1, L0773: 1, L0521: 1, L0375: 1, L0651: 1, L0805: 1, L0776: 1, L0809: 1, L0789: 1, L0666: 1, L0789: 1, H0701: 1, L0352: 1, H0570: 1, H0648: 1, H0670: 1, H0648: 1, L0740: 1, L0754: 1, L0740: 1, L0757: 1, L0752: 1, L0757: 1, L0591: 1, L0592: 1 and H0293: 1. | L0794: 2, L0776: 2, L0745: 2, L0758: 2, S0260: 2, S0142: 1, L0500: 1 and H0648: 1. | L0534: 10, L0747: 10, L0769: 8, L0751: 7, L0592: 5, H0545: 4, L0770: 4, L0761: 4, L0438: 4, H0599: 3, T0010: 3, H0547: 3, S0028: 3, H0101: 2, |
| | Asn-1 to Arg-13. | Leu-25 to Phe-35, Lys-48 to Asp-54, Arg-62 to Phe-72, Tyr-92 to Leu-99. |
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| H0050: 2, | .0794: 2, | .0378: 2, | .0752: 2, | L0758: 2, | L0603: 2, | , H0295: 1, | 50418: 1, | 0360: 1, | H0580: 1, | , H0156: 1, | H0706: 1, | H0457: 1, | H0566: 1, | L0471: 1, | H0083: 1, | H0266: 1, | S0250: 1, | , H0617: 1, | l, H0708: 1, | 1, H0135: 1, | H0551: 1, | H0488: 1, | T0041: 1, | H0561: 1, | 1, H0130: 1, | L0639: 1, | L0764: 1, | L0768: 1, | 1, L0805: 1, |
| H0546: 2, H0050: 2, | L0662: 2, L0794: 2, | LQ774: 2, L0378: 2, | S0380: 2, L0752: 2, | L0755: 2, 1 | S0436: 2, I | S0040: 1, I | H0255: 1, S0418: 1, | S0444: 1, S0360: | S0408: 1, I | H0559: 1,] | H0575: 1, H0706: | H0253: 1,] | H0562: 1, H0566: | H0081: 1,] | H0373: 1,] | S6028: 1, F | H0271: 1, 9 | H0428: 1, 1 | H0124: 1,] | S0366: 1, F | H0087: 1, 1 | H0264: 1, 1 | H0623: 1,7 | H0429: 1, 1 | | .0796: 1, I | L0667: 1, I | .0765: 1, I | .0651: 1, 1 |
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| L0776: 1, L0636: 1, L0809: 1, L0791: 1, L4501: 1, L0666: 1, L0663: 1, L0665: 1, S0428: 1, H0693: 1, H0620: 1, H0684: 1, H0690: 1, H0684: 1, H0670: 1, H0660: 1, H0648: 1, H0521: 1, L0742: 1, L0743: 1, L0742: 1, L0748: 1, L0743: 1, L0748: 1, L0789: 1, L0777: 1, L0759: 1, S0031: 1, S0434: 1 and S0192: 1. | L0748: 20, L0731: 10, L0776: 7, L0766: 6, L0754: 6, L0747: 6, L0752: 6, L0740: 5, L0755: 5, L0759: 5, H0550: 4, L0769: 4, L0438: 4, H0545: 3, H0051: 3, H0135: 3, L0662: 3, H0624: 2, H0685: 2, L0005: 2, H0645: 2, H0013: 2, S0346: 2, H0318: 2, |
| | Ser-9 to Glu-18, Asp-22 to Asp-30. |
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| H0597: 2, H0050: 2, | H0014: 2, H0553: 2, | H0040: 2, H0616: 2, | H0551: 2, S0344: 2, | S0002: 2, L0761: 2, | L0771: 2, L0650: 2, | L0806: 2, L0659: 2, | H0547: 2, H0539: 2, | H0696: 2, L0439: 2, | L0749: 2, L0756: 2, | L0605: 2, L0591: 2, | L0581: 2, L0362: 2, | H0171: 1, H0556: 1, | S0134: 1, S0218: 1, | H0583: 1, L0427: 1, | S0358: 1, H0580: 1, | H0208: 1, H0619: 1, | S0278: 1, H0369: 1, | H0549: 1, H0431: 1, | H0370: 1, H0333: 1, | H0427: 1, H0599: 1, | T0082: 1, H0421: 1, | H0052: 1, H0457: 1, | L0157: 1, H0024: 1, | H0687: 1, H0290: 1, | H0252: 1, T0006: 1, | H0644: 1, L0143: 1, | H0111: 1, H0165: 1, | H0674: 1, H0591: 1, | H0634: 1, H0488: 1, |
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| H0623: 1, H0059: 1, S0112: 1, T0042: 1, H0561: 1, H0646: 1, H0652: 1, H0538: 1, L0763: 1, L0763: 1, L0803: 1, L0775: 1, L0375: 1, L0775: 1, L0530: 1, L0775: 1, H0659: 1, H0644: 1, H0659: 1, H0658: 1, H0648: 1, H0651: 1, L0611: 1, S0028: 1, L0777: 1, L0779: 1, L0777: 1, L0777: 1, L0778: 1, H0423: 1, H0642: 1, H0677: 1 and H0642: 1, H0677: 1 and H0642: 1, H0677: 1 and | L0770: 2, L0662: 2, L4501: 2, H0521: 2, L0731: 2, L0758: 2, H0351: 1, S0222: 1, H0169: 1, H0412: 1, L0805: 1, L0666: 1, H0723: 1, H0691: 1, |
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| | Lys-54 to Asp-62, Pro-102 to Gly-109, L4501: 2, L0662: Pro-102 to Gly-109, L4501: 2, H0521: 2 Gln-121 to Thr-134, L0731: 2, L0758: 2 Lys-159 to Leu-165, H0351: 1, S0222: Thr-190 to Asn-196. H0587: 1, H0687: H0169: 1, H0412: L0805: 1, L0666: H0723: 1, H0669: H0723: 1, H0659: |
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| S0330: 1, L0755: 1, L0759: 1, H0707: 1, L0608: 1, H0543: 1 and H0423: 1 | L0766: 6, L0754: 6, L0779: 4, H0486: 3, L0665: 3, S0440: 2, L0756: 2, L0731: 2, L0758: 2, H0624: 1, H0125: 1, S0376: 1, S0360: 1, H0581: 1, L0157: 1, L0471: 1, S0250: 1, S0003: 1, H0316: 1, S0422: 1, L0776: 1, L0606: 1, L0776: 1, L0664: 1, H0689: 1, L0664: 1, H0689: 1, H0672: 1, S0328: 1, S0136: 1, H0658: 1, H0672: 1, S0328: 1, S0136: 1, H0732: 1, L0751: 1, L0777: 1, L0755: 1, L0777: 1, L0755: 1, L0777: 1, L0751: 1, | H0052: 2, H0620: 2, H0729: 1, S0300: 1, |
| | Arg-8 to Ser-35, Leu-40 to Cys-77. | Leu-17 to Arg-37, Pro-50 to Ser-77, |
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| | 360 | 361 |
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| H0462: 1, H0550: 1, | H0441: 1, H0333: 1, H0618: 1, S0010: 1, | H0309: 1, H0032: 1, | Н0673: 1, Н0124: 1, | S0366: 1, S0036: 1, | L0637: 1, S3014: 1, | L0742: 1, L0743: 1, | L0740: 1, L0750: 1, | L0753: 1 and L0758: 1. | L0521: 2, H0624: 1, | H0539: 1 and H0555: 1. | | H0693: 44, L0604: 5, | S0366: 4, L0805: 4, | H0637: 3, L0766: 3, | H0672: 3, H0549: 2, | H0271: 2, L0777: 2, | H0661: 1, H0580: 1, | H0173: 1, H0620: 1, | H0428: 1, S0364: 1, | L0641: 1, L0644: 1, | L0655: 1, L0809: 1, | L0791: 1, L0666: 1, | L0663: 1, T0068: 1, | H0576: 1, L0780: 1, | L0731: 1, L0584: 1 and | H0543: 1. | | AR055: 3, AR089: 3, |
| Arg-85 to Gln-91, | ~: | - | | <u> </u> | | | | | Gly-67 to Leu-76, | Cys-83 to Arg-89, | Glu-96 to Asn-102. | Gly-16 to Asn-31, | | Ć, | ö | | | | | | | | | | | | Val-9 to Ser-15, | Phe-34 to Tyr-41, |
| | | | | | | | | | 2537 | | | 2538 | | | | | | | | | | | | | | | 2539 | |
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| Glu-59 to Glu-75, AR033: 3, AR096: 3, Leu-94 to Asn-99, AR061: 2, AR039: 2, Asp-142 to Cys-152, AR060: 2, AR104: 2 Lys-166 to Leu-172, H0615: 3, H0393: 1, Lys-188 to Asn-194, H0441: 1, T0109: 1, H05-212 to Ala-217. H0318: 1, H0570: 1, H056: 1, L0761: 1, L0766: 1, L0761: 1, L0764: 1, H0144: 1, H0539: 1, H0696: 1, L0744: 1, L0744: 1, L0740: 1 and L0777: 1. | T0002: 1, H0164: 1 and L0761: 1. | L0747: 6, L0754: 4, L0752: 4, S0280: 3, H0615: 3, L0766: 3, L0809: 3, L0740: 3, L0750: 3, L0771: 3, H0050: 2, L0471: 2, H0628: 2, H0648: 2, S0426: 2, H0648: 2, S0027: 2, L0779: 2, L0757: 2, L0779: 2, L0757: 2, L0779: 2, L0485: 2, H0656: 1, S0029: 1, S0356: 1, S0358: 1, S0376: 1, |
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| Glu-59 to Glu-75, AR033: 3, AR099 Leu-94 to Asn-99, AR061: 2, AR033 Asp-142 to Cys-152,AR060: 2, AR109 Lys-166 to Leu-172, H0615: 3, H0393 Lys-188 to Asn-194,H0441: 1, T0109: Pro-212 to Ala-217. H0318: 1, H0570: H0566: 1, H0551: H0625: 1, L0761: L0766: 1, L0803: L0784: 1, H0144: H0539: 1, H0696: L0744: 1, L0740: | Pro-11 to Phe-16, Ala-59 to Asp-66. | Ala-9 to Leu-20, Arg-70 to Thr-75, Pro-129 to Gly-139 |
| | 2540 | 2541 |
| | 19 - 327 | 1767 - 1321 |
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| S0046: 1, H0645: 1, S0222: 1, H0592: 1, | H0486: 1, H0427: 1, | H0042: 1, H0036: 1, | H0004: 1, H0581: 1, | H0434: 1, H0052: 1, | T0110: 1, H0545: 1, | S0051: 1, H0375: 1, | H0328: 1, L0483: 1, | H0030: 1, H0644: 1, | H0090: 1, H0551: 1, | H0100: 1, H0633: 1, | S0344: 1, S0002: 1, | L0761: 1, L0764: 1, | L0521: 1, L0363: 1, | L0774: 1, L0775: 1, | L0558: 1, L0659: 1, | L0782: 1, L0787: 1, | H0691: 1, H0658: 1, | H0651: 1, S0330: 1, | H0539: 1, S0380: 1, | H0518: 1, S0013: 1, | H0555: 1, S3014: 1, | L0748: 1, L0439: 1, | L0749: 1, L0758: 1, | S0031: 1, L0599: 1, | L0362: 1, S0196: 1 and | H0615: 2 and H0486: |
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| H0539: 2 | H0615: 3 | L0748: 3, L0471: 2, L0766: 2, L0752: 2, S0358: 1, H0357: 1, H0486: 1, H0270: 1, H0575: 1, S0182: 1, S0049: 1, T0067: 1, H0412: 1, H0560: 1, S0144: 1, S0326: 1, H0538: 1, S0422: 1, S0426: 1, L0764: 1, H0660: 1, H0521: 1, L0751: 1, L0749: 1, L0777: 1, L0731: 1, H0445: 1, L0608: 1 and H0667: 1. | L0777: 4, L0517: 3, L0740: 3, L0599: 3, S0354: 2, H0615: 2, L0521: 2, L0663: 2, L0779: 2, L0591: 2, T0002: 1, H0013: 1, H0427: 1, H0553: 1, H0038: 1, L0520: 1, |
| Glu-8 to Tyr-18, Asn-29 to Lys-35, Lys-62 to Ile-67, His-88 to Pro-99. | | Pro-11 to Phe-19, Phe-41 to Ser-54. | Glu-10 to Ser-19, L0777: 4, L0517: 3 His-41 to Lys-50, L0740: 3, L0599: 3, Glu-80 to Leu-86, S0354: 2, H0615: 2, Ser-142 to Leu-147, L0521: 2, L0663: 2, Lys-153 to Lys-161, L0779: 2, L0591: 2, Tyr-167 to Leu-175, F0002: 1, H0013: 1, Ser-177 to Asn-188, H0427: 1, H0553: 1 Gln-199 to Arg-228, H0038: 1, L0520: 1, |
| 2543 | 2544 | 2545 | 2546 |
| 298 - 2 | 334 - 393 | 290 - 571 | 3 - 1016 |
| 368 | 369 | 370 | 371 |
| 1006943 | 1006953 | 1007230 | 1007941 |
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| L0769: 1, L0638: 1, L0518: 1, L0809: 1, H0547: 1, L0439: 1, L0747: 1 and H0444: 1. | H0686: 1, H0559: 1 and S0028: 1. | AR053: 1, AR104: 1, AR061: 1, AR033: 1, AR060: 0, AR096: 0, AR039: 0, AR089: 0, AR052: 0, AR055: 0 | AR039: 9, AR089: 4, AR060: 4, AR055: 4, AR061: 3, AR033: 3, AR104: 3, AR053: 3, AR096: 1 S0354: 2, S0360: 1, H0036: 1, H0596: 1 and S0374: 1. | Glu-26 to Gly-31, AR052: 51, AR061: Gly-33 to Trp-40, 46, AR033: 35, AR053: Ala-169 to Glu-175, 28, AR104: 26, AR055: |
| Gln-257 to Glu-262, L0769: 1, L0638: 1, Asp-274 to Ser-279, L0518: 1, L0499: 1, H0547: 1, L0439: 1, L0747: 1 and H0444 | Pro-6 to Leu-11, Glu-90 to Asn-95, Val-102 to Val-107, Ala-120 to Glu-126, Ala-132 to Thr-144. | 10 0 0 | · · | Glu-26 to Gly-31, Gly-33 to Trp-40, Ala-169 to Glu-175, |
| | 2547 | 2548 | 2549 | 2550 |
| | 18 - 449 | 81 - 1334 | 3 - 554 | 3 - 752 |
| | 372 | 373 | 374 | 375 |
| | 1007976 | 1008013 | 1008027 | 1008071 |
| | Н6ЕDU06 | HPCRD26 | HSIEH63 | HPASD51 |

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| Gly-199 to Gly-204. 25, AR096: 25, AR060: 24, AR089: 23, AR039: 21 S0380: 5, L0748: 4, H0648: 3, S0378: 3, L0752: 3, L0766: 2, L0750: 2, H0661: 1, H0270: 1 | H0039: 1, H0622: 1, L0761: 1, L0657: 1, L0532: 1, L0666: 1, H0689: 1, S0330: 1, L0749: 1 and L0777: 1. | L0803: 5, L0439: 5, L0750: 5, L0774: 4, | | | L0657: 3, | L0438: 3, L0747: 3, | LU/31: 3, HU656: 2, T0042: 2, L0761: 2, | L0764: 2, L0654: 2, | S0152: 2, L0751: 2, | L0749: 2, L0777: 2, | L0759: 2, L0592: 2, | H0543: 2, S6024: 1, H0341: 1, S0212: 1, |
| Gly-199 to Gly-204. | | Gly-28 to Pro-34, Lys-39 to Glu-47, | Ala-63 to Cys-68, Asn-101 to Gly-111, | Leu-144 to His-161, | Asp-234 to 11p-243, Phe-396 to Ser-407. | | | · | | | | |
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| S0420: 1, S0358: 1, | H0637: 1, H0208: 1, | S0045: 1, S0046: 1, | 10369: 1, H0441: 1, | H0357: 1, H0613: 1, | F0039: 1, H0013: 1, | H0427: 1, H0575: 1, | S0010: 1, S0346: 1, | H0209: 1, H0123: 1, | H0024: 1, S0051: 1, | F0010: 1, H0061: 1, | H0266: 1, H0553: 1, | H0598: 1, S0036: 1, | H0038: 1, H0551: 1, | H0264: 1, H0059: 1, | L0351: 1, T0041: 1, | L0475: 1, L0762: 1, | L0631: 1, L0638: 1, | L0643: 1, L0766: 1, | L0804: 1, L0775: 1, | L0375: 1, L0805: 1, | L0791: 1, L0663: 1, | S0126: 1, H0670: 1, | H0660: 1, H0672: 1, | H0521: 1, H0522: 1, | H0696: 1, H0704: 1, | S0044: 1, L0756: 1, | L0757: 1, L0758: 1, |
| S | <u>2 II</u> | Ω Ε | <u>4. 1 -</u> | <u>, 11-4</u> | <u>.F.</u> | <u>,</u> | <u>0</u> | <u> </u> | | Ţ | | _= | <u> </u> | - | | | | | | • | | | | | , | | , |
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| L0588: 1, L0591: 1, | L0485: 1, H0542: 1, | H0423: 1, H0422: 1 and | H0293: 1. | L0770: 7, L0777: 7, | S0406: 5, L0439: 5, | L0758: 4, H0659: 3, | H0717: 2, H0494: 2, | L0598: 2, L0764: 2, | L0655; 2, H0547; 2, | H0521: 2, H0478: 2, | L0748: 2, L0731: 2, | L0595: 2, L0411: 1, | H0657: 1, H0656: 1, | H0663: 1, S0358: 1, | H0329: 1, H0645: 1, | H0639: 1, H0415: 1, | H0455: 1, H0156: 1, | L0021: 1, H0052: 1, | T0110: 1, L0471: 1, | H0687: 1, S0250: 1, | H0428: 1, H0553: 1, | H0166: 1, H0598: 1, | H0040: 1, H0551: 1, | S0386: 1, H0560: 1, | H0509: 1, H0538: 1, | UNKWN: 1, L0763: 1, | L0638: 1, L0646: 1, | L0662: 1, L0364: 1, | L0803: 1, L0659: 1, |
| | | | | Leu-40 to Val-46, | Gly-83 to Gln-89, | Lys-123 to Gly-129. | • | | , | | | | | | | | | | · | | | | | | | | | | |
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| | 114208, 114208, 119300, 120620, 120620, 120920, 134370, 134370, 134580, 150310, 150310, 179820, 179820, 179820, 1600105, 600105, 600332, |
| | 1q32-q41 |
| L0636: 1, L0783: 1, L0666: 1, H0520: 1, H0519: 1, S0122: 1, H0435: 1, H0518: 1, H0694: 1, H0555: 1, H0436: 1, L0747: 1, L0749: 1, L0779: 1, L0752: 1, L0755: 1, S0031: 1, L0485: 1, | H0556: 3, S0474: 2, H0622: 2, H0634: 2, S0434: 2, H0265: 1, H0254: 1, H0663: 1, S0046: 1, H0602: 1, H0575: 1, H0581: 1, H0575: 1, H0581: 1, H0617: 1, R0494: 1, H0670: 1, S0152: 1, L0748: 1 and L0603: 1. |
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| 379 | | 1 - 1209 | 2554 | Arg-1 to Cys-8, Ala-11 to Thr-22, Pro-87 to 1 en. 99 | H0615: 2, L0766: 2, L0755: 2, L0471: 1, H0356: 1 T0023: 1 | 12p11.2- p11.1 | 112410, 135700, 168470 |
| | | | | Lys-120 to Glu-144, L0761: 1, L0794: | L0761: 1, L0794: 1, | | 200990 |
| | | | | Leu-179 to Lys-200, L0787: 1, L0789: 1 | L0787: 1, L0789: 1, | | |
| | | | | Glu-212 to Lys-221, | H0519: 1, L0745: 1, | | |
| | | - | | Tyr-280 to Arg-287, | Tyr-280 to Arg-287, L0746: 1, L0591: 1 and | | |
| | | | • | Lys-292 to Gly-299, | L0593: 1. | • | |
| | | | | Val-314 to Ser-320, | | | |
| | | | | Pro-322 to Pro-340. | | | |
| 380 2 | 7 | 26 - 169 | 2555 | His-8 to Gly-18. | H0615: 1 | | |
| 381 36 | 36 | 369 - 671 | 2556 | Lys-54 to Arg-59, | L0805: 2, S0134: 1, | ٠ | |
| - | | | | Arg-66 to Arg-71. | H0486: 1; H0251: 1, | | |
| | | | | | H0235: 1, S0022: 1, | | |
| | | - | | | H0615: 1, L0667: 1, | | |
| | | • | | | L0776: 1, L0789: 1, | | |
| | | | | | L0758: 1 and H0423: 1. | | - |
| 382 3 | 3 | 3 - 218 | 2557 | Thr-4 to Ser-11, | H0615: 1 | | |
| . | | | | Pro-25 to Ala-31, | | • | |
| | | | | Thr-38 to His-44. | • | | |
| 383 | | 3 - 416 | 2558 | Ser-2 to Thr-13, | H0615: 3 | | , |
| | | - | | Ile-16 to Ser-26, | | | |
| | | | | Pro-28 to Gln-36, | | | |
| | | | | Gln-41 to Pro-47, | - | | |
| | | - | | Pro-106 to Asp-111, | | | |
| | | | | Trp-127 to Thr-132. | | | |
| 384 24 | 7 | 244 - 1206 | 2559 | • | L0776: 9, L0769: 4, | | |
| | | | | Leu-51 to Arg-56, | L0789: 4, L0773: 3, | | |

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| L0774: 3, L0750: 3, L0761: 2, L0771: 2, L0803: 2, L0807: 2, L0865: 2, L0745: 2, S0376: 1, H0549: 1, H0453: 1, H0587: 1, H0201: 1, H0687: 1, H0201: 1, H0687: 1, L0763: 1, L0770: 1, L0763: 1, L0794: 1, L0766: 1, L0794: 1, L0766: 1, L0798: 1, H0521: 1, L0780: 1, L0758: 1, L0780: 1, L0758: 1, L0759: 1, | H0181: 2, L0599: 2, H0014: 1, L0365: 1, L0665: 1, S0052: 1, S0216: 1, H0684: 1, S0152: 1, S0188: 1, H0345: 1 and L0366: 1. | H0551: 2, S0354: 1, H0229: 1, S0049: 1, H0135: 1, H0529: 1 and S0028: 1. |
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| · | 782 - 663 2560 | 3 - 737 2561 |
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| 114835, 118470, 132700, 172490, 209900, 600968 | |
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| L0750: 4, L0777: 3, L0758: 3, S0354: 2, S0360: 2, H0619: 2, H0622: 2, H0617: 2, L0666: 2, H0520: 2, L0756: 2, L0759: 2, S0358: 1, H0549: 1, H0253: 1, H0629: 1, H0024: 1, H0620: 1, H0024: 1, H0620: 1, H0135: 1, H0646: 1, L0763: 1, L0761: 1, L0763: 1, L0662: 1, L0763: 1, L0662: 1, L0767: 1, L0741: 1, H0672: 1, L0741: 1, L0743: 1, L0741: 1, L0743: 1, L0744: 1, | H0670: 4, S0007: 2, H0014: 2, H0616: 2, L0005: 1, H0574: 1, H0632: 1, H0156: 1, H0169: 1, L0769: 1, L0805: 1, L0769: 1, H0648: 1, L0779: 1 and L0758: 1. |
| 2562 Asn-7 to Lys-19. | Thr-5 to His-10, Pro-28 to Thr-40, Lys-46 to His-54. |
| 2562 | 2563 |
| 1 - 558 | 22 - 216 |
| 387 | 388 |
| | 1008335 |
| HLHCB31 | HPFDV51 |

| 118210, | 120550, | 120570, | 120575, | 121800, | 130500, | 133200, | 171760, | 171760, | 185470, | 230350, | 255800, | 602771 | | | | | | | | | | | | | | | ; | |
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| 1p35.1 | · | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L0803: 8, L0758: 8, | L0809: 6, L0748: 6, | H0038: 5, L0439: 5, | H0616: 4, H0670: 4, | L0756: 4, L0731: 4, | L0794: 3, L0750: 3, | L0770: 2, L0805: 2, | L0776: 2, L0602: 2, | L0779: 2, S0276: 2, | S0282: 1, S0410: 1, | H0369: 1, H0549: 1, | H0618: 1, H0252: 1, | H0615: 1, H0424: 1, | H0213: 1, H0032: 1, | H0212: 1, H0068: 1, | T0067: 1, S0438: 1, | L0769: 1, L0638: 1, | L0804: 1, L0775: 1, | L0806: 1, L0527: 1, | L0782: 1, L0788: 1, | L0789: 1, L0666: 1, | L0664: 1, L0665: 1, | H0658: 1, H0672: 1, | S3012: 1, L0751: 1, | L0745: 1, L0777: 1, | L0780: 1, L0759: 1 and | L0581: 1. | H0615: 3 | H0663: 1, H0125: 1, |
| Arg-2 to Glv-9. | ý | | Asp-79 to Ala-84, | Leu-129 to Glu-136, | Glu-202 to Arg-210, | | | | | | | | | | | | | | | | | | | | | | Gln-2 to His-10, Lys-21 to Glu-33. | |
| 2564 | · • | - | ; | | | | | | | | | | | | | | | | | | | | | | | | 2565 | 2566 |
| 2 - 832 | ! } ! | | | | | | | | | | | | | | | | 1 | | • | | | | | | | | 2 - 166 | 109 - 435 |
| 389 | <u> </u> | | | | | | | | | | | | | | | | | | | | | | | | | | 390 | 391 |
| 1008336 | | | | | | | | | | | | | | - | | | | | | | | | | | | - | 1008337 | 1008345 |
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| 5: 1, 8: 1 and | 63: 5, 4: 3, | 1: 9: 2, 2; | . % . % . % | 7:1, | ‡ : 1, |): 1, | 1: 1, | 2: 1, | 0: 1, | 4: 1, | 9: 1, | 9: 1, | 4: 1, | 8: 1, | 6: 1, | 4: 1, | 5: 1, | 5: 1, | 2: 1, | 6: 1, | 5: 1, | 8: 1, | 6: 1, | | 1: 1 and |
| S0418: 1, S0356: 1, H0051: 1, H0648: 1 and H0543: 1. | L0752: 6, L0663: 5, .0646: 3, L0754: 3, | .0747: 3, H0031: 2, .0794: 2. H0659: 2. | 10658: 2, L0748: 2 | 10556: 1, H0657: | J0005: 1, S0354: | S0358: 1, S0410: | H0637: 1, H0441: | 5: 1, T0082: | 5: 1, S0440: 1 | H0633: 1, S0344: | : 1, H0529: | .0770: 1, L0769: | .0637: 1, L0374: | .0771: 1, L0648: | : 1, L0766: | .0650: 1, L0774: | : 1, L0805: | : 1, L0655: | :: 1, L0782: | 1, L0666: | : 1, L0665: | : 1, H0648: | H0521: 1, H0696: 1 | S0406: 1, L0740: 1, | L0749: 1, L0731: 1 and |
| S0418: 1, H0051: 1 H0543: 1 | L075 | 1.0747 | H0658 | H0556 | L0005 | S0358 | H0637 | H0455: 1, | H0615: 1, | H0633 | S0426: 1 | 10770 | L0637 | L0771 | L0662: 1, | L0650 | L0775: 1, | L0776: 1, | L0542: 1, | L0809: 1 | L0664: 1, | 1.0352: | H0521 | S0406 | L0749 |
| | Ser-24 to Ala-30, Arg-55 to Ser-62. | | | | | , | • | | | | | | | | | | , | | | | | • | | | |
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| H0444: 1. | S0360: 2, H0123: 2, L0649: 2, L0803: 2, L0666: 2, L0740: 2, L0747: 2, L0750: 2, L0755: 2, H0624: 1, S0418: 1, H0124: 1, H0553: 1, H0124: 1, H0646: 1, S0440: 1, L0662: 1, L0776: 1, L0659: 1, L0665: 1, L0659: 1, H0648: 1, H0519: 1, H0648: 1, H0577: 1, L0752: 1, H0445: 1, L0752: 1, H0445: 1, L0752: 1, | H0046: 2 and H0648: 1. | <u> </u> | H0360: 14, L0809: 11, |
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| | | Thr-5 to Ser-12, Thr-74 to Pro-80. | 31. | Thr-25 to Ser-36. |
| | 2568 | 2569 | 2570 | 2571 |
| | 987 - 1100 | 3 - 377 | 1 - 495 | 3 - 455 |
| | 393 | 394 | 395 | 396 |
| | 1008350 | 1008358 | 1008359 | 1008372 |
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| L0749 | L0803 | L0774 | S0408 | L0775: 4, | H0648 | L0623 | L0471 | , H061 | L0768 | S0328 | L0779 | S0116 | S0360 | , \$0222 | , T0082 | , H001 | , S044C | L0769: 2, | L0517 | , H067 | , H053 | L0753: 2, | L0759: 2, | | L0595: 2, | H0171: 1, | H0218 | , S034Ž | T0049 |
| 0747: 9, L0749: 9, | 0777: 9, L0803: 8, | 0731: 8, L0774: 7, | 0794: 6, S0408: 5, | .0783: 5, I | .0438: 4, H0648: 4, | .0756: 4, L0623: 3, | H0575: 3, L0471: | 3373:3 | 520: 3, | 126: 3, | S0406: 3, L0779: 3, | 758: 3, | 444: 2, | H0393: 2, S0222: 2, | H0156: 2, T0082: 2, | H0052: 2, H0014: 2, | 10494: 2, S0440: 2, | .0763: 2, | .0764: 2, L0517: 2, | 10684: 2, H0670: 2, | H0672: 2, H0539: 2, | .0740: 2, | ,0757: 2, | 50031: 2, | .0581: 2, | S0424: 2, | F0002: 1, H0218: 1, | H0685: 1, S0342: 1 | S0402: 1, T0049: |
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| 1 | 481: 1, | 356: 1, | 358: 1, | 580: 1, | 045: 1, | 132: 1, |)592: 1, | 060: 1, | 474: 1, | , H0230: 1, | 309: 1, | 0050: 1, | 1, H0320: 1, | 051: 1, | 028: 1, | 1, S0003: 1, | , H0644: 1, | 0181: 1, | 0674: 1, |)591: 1, | 0412: 1, | 0560: 1, | 144: 1, |)426: 1, | L0800: 1, | 0521: 1, | 0767: 1, | 5574: 1, | 0804: 1, |
| h10/69, 1, 00001. 1 | H065/: 1, 50 S0282: 1, L0 | H0638: 1, S0356: 1, | S0442: 1, S0: | S0410: 1, H0580: | H0722: 1, S0045: | S0046: 1, S0 | H0549: 1, HC | H0574: 1, T0060: 1, | H0013: 1, S0 | H0581: 1, HC | H0251: 1, H(| H0596: 1, H0050: 1 | H0242: 1, H(| L0163: 1, S0051: 1 | T0010: 1, S6 | H0179: 1, SC | H0039: 1, H | L0142: 1, H0181: 1, | H0617: 1, H | S0036: 1, H0591: 1 | H0616: 1, H | H0202: 1, H0560: | S0438: 1, S0 | S0422: 1, S0426: | L0772: 1, L(| L0773: 1, L0521: 1 | L0662: 1, L0 | L0766: 1, L5574: 1 | L0522: 1, L0804: |
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| | | | | | | 1256540, 600281, 600281 |
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| L0653: 1, L0776: 1, L0659: 1, L0526: 1, L0782: 1, L5622: 1, L0788: 1, H0689: 1, H0690: 1, H0682: 1, H0658: 1, S0378: 1 | 10096: 1, 10134: 1, 10696: 1, 10134: 1, 10020: 1, 10742: 1, 10752: 1, 20434: 1, 10589: 1, 20192: 1, 10423: 1, 10422: 1 and 10069: 1, 100 | H0615: 3 | H0615: 4 | H0615: 2, S0278: 1, S0002: 1, H0555: 1 and S0026: 1. | L0758: 6, L0779: 4, H0038: 3, H0616: 2, L0593: 2, H0644: 1, L0794: 1 and L0594: 1. | His-6 to Ser-11, H0031: 12, H0521: 11, 20q12-q13.1256540 Ser-122 to Asn-128, H0542: 11, L0745: 9, 600281 Leu-216 to Asp-221, H0266: 7, H0547: 7, 600281 Ser-323 to His-328. H0551: 6, H0013: 5, S0152: 5, T0049: 4, H0494: 4, |
| | | | Lys-1 to Lys-6, Leu-10 to Asp-17, Pro-19 to Arg-28. | Pro-35 to Lys-40, Glu-72 to Gly-77, Pro-85 to Val-90. | Leu-14 to Ser-19. | His-6 to Ser-11, H0031: 12, H0521 Ser-122 to Asn-128, H0542: 11, L0745: Leu-216 to Asp-221, H0266: 7, H0547: 7 Ser-323 to His-328, H0551: 6, H0013: 5 S0152: 5, T0049: 4, H0494: 4 |
| | | 2572 | 2573 | 2574 | 2575 | 2576 |
| | | 411 - 548 | 138 - 221 | 1 - 276 | 317 - 658 | 161 - 1291 |
| ` | | 397 | 398 | 399 | 400 | 401 |
| | | 1008379 | 1008396 | 1008401 | 1008406 | 1008423 |
| | | HODEG86 | HODFA57 | НОДЕВ31 | HTEMP79 | нореїз9 |

| H0046:3 H0644:3 | \$0 :: | H0591: 3, S0002: 3, | H0520: 3, S0126: 3, | S0028: 3, L0439: 3, | L0754: 3, L0757: 3, | L0596: 3, H0423: 3, | H0171: 2, S0134: 2, | 80354: 2, 80358: 2, | H0580: 2, S0046: 2, | H0587: 2, H0497: 2, | T0039: 2, H0599: 2, | H0050: 2, L0471: 2, | T0010: 2, H0615: 2, | H0039: 2, H0090: 2, | H0038: 2, H0040: 2, | H0488: 2, T0042: 2, | S0150: 2, H0529: 2, | L0649: 2, L0659: 2, | L0438: 2, H0519: 2, | H0660: 2, H0555: 2, | S3014: 2, S0027: 2, | L0777: 2, L0593: 2, | L0601: 2, H0653: 2, | H0543: 2, H0170: 1, | H0556: 1, H0341: 1, | S0001: 1, H0664: 1, | H0662: 1, H0638: 1, | S0418: 1, S0420: 1, |
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| S0356: 1, H0619: 1, | H0393: 1, S0278: 1, | H0431: 1, H0608: 1, | H0442: 1, H0586: 1, | H0643: 1, H0486: 1, | H0156: 1, H0575: 1, | H0036: 1, S0346: 1, | H0581: 1, H0052: 1, | H0263: 1, H0544: 1, | | H0014: 1, H0355: 1, | H0375: 1, H0188: 1, | H0687: 1, H0292: 1, | H0328: 1, H0428: 1, | H0622: 1, T0023: 1, | H0628: 1, H0383: 1, | H0165: 1, L0455: 1, | H0124: 1, H0135: 1, | H0268: 1, H0623: 1, | H0100: 1, H0429: 1, | H0561: 1, H0509: 1, | H0646: 1, H0538: 1, | L0800: 1, L0626: 1, | L0387: 1, L0654: 1, | H0701: 1, H0593: 1, | H0711: 1, H0690: 1, | | H0672: 1, L0602: 1, | S0206: 1, L0751: 1, | L0746: 1, L0731: 1, |
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| H0444: 1, H0445: 1, S0434: 1, L0587: 1, L0588: 1, L0581: 1, L0604: 1, L0594: 1, S0196: 1, H0506: 1 and H0293: 1. | انـ | L0754: 40, L0740: 8, H0295: 2, H0663: 2, H0169: 2, H0068: 2, L0770: 2, L0748: 2, L0751: 2, L0748: 2, L0759: 2, L0759: 1, H0156: 1, H0156: 1, H0100: 1, H0494: 1, L0809: 1, L0806: 1, L0809: 1, L0806: 1, L0809: 1, L0779: 1, L0779: 1, L0777: 1, L0789: 1, L0779: 1, L0777: 1, L0789: 1, L0591: 1, L0591 | AR096: 7, AR053: 5, AR089: 4, AR039: 3, AR060: 2, AR055: 2, AR052: 2, AR033: 2, AR061: 2, AR104: 2 |
| | Pro-19 to Ser-29. | Lys-1 to Lys-23. | Lys-46 to Gly-14, AR096: Lys-46 to Ala-52, AR089: Leu-82 to Phe-89, AR060: Lys-94 to Ser-99, AR052: Pro-101 to Arg-108, AR061: |
| | 2577 | 2578 | 2579 |
| | 2 - 94 | 236 - 769 | 96 - 1268 |
| | 402 | 403 | 404 |
| | 1008429 | 1008445 | 1008764 |
| | HODEF94 | HPFCZ53 | HWACN71 |

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| H0457: 2, H0494: 2, H0740: 1, H0581: 1, H0083: 1, L0770: 1, L0769: 1, L0764: 1, L0791: 1 and H0727: 1. | Ser-70 to Trp-88, AR039: 17, AR052: Lys-154 to Asp-161,11, AR104: 7, AR033: Tyr-265 to Lys-270. 7, AR096: 7, AR053: 6, AR089: 6, AR060: 3, AR061: 3, AR055: 13, AR061: 3, AR055: | AR039: 15, AR089: 10, AR053: 10, AR096: 9, AR055: 8, AR060: 7, AR033: 6, AR061: 5, AR104: 4 L0510: 3, L0504: 1, L0502: 1, L0499: 1, L0514: 1, L0512: 1 and S3012: 1. | L0731: 10, L0759: 6, L0782: 4, L0774: 3, H0046: 2, H0620: 2, L0598: 2, L0769: 2, L0805: 2, L0663: 2, S0380: 2, L0754: 2, L0756: 2, H0170: 1, |
| Ala-123 to Gly-129, H0457: 2, H0494: Lys-154 to Gly-164, H0740: 1, H0581: 1 Arg-274 to Glu-287, H0083: 1, L0770: 1, Asp-294 to Thr-309, L0769: 1, L0764: 1, Gln-324 to Ala-334, L0791: 1 and H072. Pro-343 to Asn-359, Lys-368 to Glu-385. | Ser-70 to Trp-88, Lys-154 to Asp-161, Tyr-265 to Lys-270. | Pro-10 to Pro-16. | Lys-5 to Phe-58. |
| | 2580 | 2581 | 2582 |
| | 342 - 1151 | 417 - 554 | 155 - 658 |
| · | 405 | 406 | 407 |
| | 1009017 | 1009095 | 1009343 |
| | HOFMU69 | HSKNP59 | HETBR71 |

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| H0384: 1, H0484: 1, | H0664: 1, S0358: 1, | S0360: 1, S0410: 1, | H0580: 1, H0549: 1, . | S0222: 1, H0427: 1, | H0156: 1, S0010: 1, | H0194: 1, H0545: 1, | H0375: 1, H0644: 1, | S0366: 1, H0038: 1, | S0210: 1, L0631: 1, | L0800: 1, L0764: 1, | L0662: 1, L0766: 1, | L0775: 1, L0375: 1, | L0776: 1, L0659: 1, | L0647: 1, H0144: 1, | H0547: 1, H0660: 1, | H0672: 1, S0330: 1, | H0539: 1, S0152: 1, | S0044: 1, H0694: 1, | S0406: 1, L0779: 1, | L0758: 1, L0605: 1 and | H0653: 1. | L0663: 3, L0740: 3, | L0752: 3, L0758: 3, | L0759: 3, L0664: 2, | L0665: 2, L0439: 2, | L0756: 2, H0624: 1, | H0170: 1, H0685: 1, | S0003: 1, H0615: 1, | H0644: 1, H0616: 1, |
| | | | ٠ | | | | | | | | | | | | | | | | | | | Glu-1 to Glu-13. | | | | | | | |
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| | | · | | | | 109270, 109270, 109270, 109270, 113705, 113705, |
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| L0598: 1, L0649: 1, L0666: 1, H0660: 1, H0648: 1, H0672: 1, H0696: 1, H0555: 1, L0779: 1, L0755: 1, | S0045: 1 | AR089: 1, AR033: 1, AR060: 0, AR096: 0, AR061: 0, AR055: 0, AR039: 0 H0170: 1, H0574: 1, H0052: 1, H0048: 1 and | H0305: 2, L0663: 2, H0170: 1, S0003: 1, L0803: 1 and H0651: 1. | H0624: 1 | H0208: 1, H0123: 1 and H0024: 1. | H0305: 1 and H0040: 1. |
| | Asp-57 to Ala-62, Gly-98 to Pro-112. | | | Pro-65 to Lys-70, His-112 to Gly-131. | Arg-5 to Gly-11. | Gly-3 to Thr-9, Arg-30 to Gly-39. |
| , | 2584 | 2585 | 2586 | 2587 | 2588 | 2589 |
| | 14 - 349 | 43 - 132 | 555 - 427 | 1 - 408 | 91 - 2 | 1 - 357 |
| | 409 | 410 | 411 | 412 | 413 | 414 |
| | 1009362 | 1009365 | 1009388 | 1009398 | 1009403 | 1009414 |
| | негнмое | HE2AG50 | HE2ES61 | HE2SO43 | HLHCI07 | HTTBR65 |

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| 148065, 148066, 148066, 148067, 148069, 148069, 154275, 168610, 171190, 177190, 200350, 221820, 222200, 232200, 252920, 253250, 600119, 600119, 601363, | | 108725, 120700, 133171, 143890, |
| | | 19p13.2 |
| | H0328: 1, H0615: 1, H0169: 1, L0807: 1 and L0754: 1. | H0125: 1 |
| | | Ala-9 to Glu-19, Glu-40 to Asn-46, Asp-55 to Ser-66. |
| | 2590 | 2591 |
| · · | 434 - 586 | 169 - 423 |
| | 415 | 416 |
| | 1009453 | 1009479 |
| | HPFCV71 | HCABR46 |

| 147670, 147670, 151440, 164953, 231670, 600276, 600957, | 188826, 250100, 250800, 250800 | 104770, 107300, 107500, 131210, 134638, 136132, 146740, 146740, 146740, 176310, 176310, 176310, 176310, 176310, 176310, 176310, 186780, 191030, 227400, |
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| : | 22q13.2- q13.31 | 1923 |
| | H0170: 1, H0327: 1, H0038: 1, L0758: 1 and S0276: 1. | L0769: 4, L0751: 4, L0471: 2, H0024: 2, L0768: 2, L0748: 2, L0731: 2, L0595: 2, H0685: 1, S0001: 1, H0012: 1, H0644: 1, H0617: 1, H0040: 1, H0617: 1, L0637: 1, L0662: 1, L0809: 1, L0665: 1, L0780: 1 and L0591: 1, |
| | Gln-34 to Ala-45, Glu-47 to Leu-52, Lys-113 to Gln-121. | Asn-12 to Tyr-19, Glu-33 to Glu-38, Arg-53 to Ser-62. |
| | 2592 | |
| | 78 - 479 | 1 - 648 |
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| | 1009482 | |
| | HCRCB80 | HPMLW78 |

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| 601652, | 602491 | | | • | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | , L0504: | L0510: 4 | L0509: 3 | L0502: 2 | L0499: 2 | L0498: 1 | H0648: | H0341: | L0505: 7, | H0670: 7, | H0659: 6, | .0508: 5, | 30114: 4, | S0045: 4, | L0515: 4 | L0664: 4, | H0658: 4, | 50028: 4, | L0362: 4, | H0333: 3, | H0090: 3 | S0142: 3 | S0374: 3, | 1.0750: 3 |
| | | H0615: 2 | H0615: 1 | H0615: 1 | | L0493: 55, L0504: 46, | L0512: 42, L0510: 41, | L0507: 39, L0509: 35, | .0511: 30, L0502: 29, | .0500: 25, | L0503: 19, L0498: 13, | .0514: 13, H0648: 13, | .0506: 10, H0341: 9, | H0046: 7, L0505: 7 | L0497: 7, H0670: 7 | L0520: 6, H0659: 6, | S0380: 6, L0508: 5, | S0027: 5, S0114: 4, | H0657: 4, S0045: 4 | H0100: 4, L0515: 4, | L0526: 4, L0664: 4, | S0126: 4, H0658: 4, | S0378: 4, S0028: 4, | L0588: 4, L0362: 4, | S0026: 4, H0333: 3, | H0318: 3, H0090: 3 | H0413: 3, S0142: 3, | L0646: 3, S0374: 3, | H0689: 3, L0750: 3, |
| | | -34. | y-32. | y-9, | ys-23. | /s-87, | 5, | ys-131, I | _ | _ | | | | | <u>, 11</u> | | <u>,</u> | | | | | 94 | <u> </u> | | | | | | |
| | | Ala-26 to Ile-34. | Ser-27 to Gly-32. | Asp-1 to Gly-9, | Glu-17 to Lys-23 | Ala-76 to Lys-87, | Glu-110 to Gln-115, | Ser-123 to Lys-131, | Lys-168 to Ala-174, | Pro-178 to Ala-193, | Ala-196 to Ala-201. | | | | | | | | | | | | | | | | | | |
| | | 2594 | 2595 | 2596 | | 2597 | _ | | | - | | | | | | | | | | | | | | | | | | | |
| | | 3 - 428 | 1 - 123 | 366 - 166 | • | 718 - 116 | • | | | | | | | | | | | | | -• | | | | | | | | | |
| | | 419 | 420 | 421 | | 422 | | | | | | | | | | | | | | | | | | | | | | | |
| | | 1009842 | 1009854 | 1009857 | | 1009918 | | | | | | | | | | | | | | | | | | | | | - | | |
| | | HODJK75 | HODJX27 | HODJV85 | | HOOTO38 | | | | | | | | | | | | | | | | | | | | | | | |

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| H0445: 3, L0361: 3, | H0352: 3, H0220: 2, | T0049: 2, H0305: 2, | H0125: 2, S0358: 2, | S0046: 2, S0222: 2, | H0643: 2, L0622: 2, | H0013: 2, H0251: 2, | H0014: 2, H0188: | S0003: 2, H0364: 2, | H0031: 2, H0040: 2, | H0087: 2, H0625: 2, | H0647: 2, S0422: 2, | L0501: 2, L0 | L0375: 2, L0 | H0365: 2, H0690: 2, | H0436: 2, S0390: 2, | S0037: 2, L0742: 2, | L0748: 2, L0 | L0603: 2, H0665: 2, | H0542: 2, H0543: 2 | L0718: 2, H0624: 1, | H0170: 1, H0171: 1 | H0265: 1, T0002: 1 | H0222: 1, H0686: 1, | H0685: 1, S0040: | H0381: 1, S0116: | S0212: 1, H0255: | H0669: 1, H0671: 1 | H0638: 1, S0354: 1 | S0360: 1, H0580: |
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| H0208: 1, H0441: 1, | H0438: 1, H0282: 1, | H0600: 1, H0362: 1, | H0559: 1, L0623: 1, | H0485: 1, H0486: 1, | T0039: 1, T0109: 1, | H0069: 1, H0635: 1, | H0575: 1, H0274: 1, | S0346: 1, T0048: 1, | H0581: 1, H0085: 1, | H0263: 1, H0597: 1, | H0231: 1, H0327: 1, | H0172: 1, H0024: 1, | S0051: 1, H0510: 1, | H0594: 1, H0266: 1, | H0271: 1, H0687: 1, | S0214: 1, H0252: 1, | H0688: 1, H0428: 1, | T0006: 1, H0628: 1, | H0606: 1, L0055: 1, | H0383: 1, H0165: 1, | H0166: 1, S0366: 1, | H0591: 1, H0616: 1, | H0063: 1, H0412: 1, | H0059: 1, H0560: 1, | H0359: 1, H0646: 1, | L0598: 1, L0369: 1, | L0764: 1, L0662: 1, | L0388: 1, L0522: 1, |
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| L0775: 1, L0651: 1, L0776: 1, L0659: 1, L0518: 1, L0783: 1, L0518: 1, L0783: 1, L0384: 1, L0541: 1, L0384: 1, L0367: 1, L0368: 1, L0367: 1, L0663: 1, L0665: 1, S0428: 1, H0691: 1, H0666: 1, H0672: 1, H0651: 1, H0576: 1, S0392: 1, S0118: 1, S0206: 1, S0032: 1, L0771: 1, L0747: 1, L0771: 1, L0769: 1, L0771: 1, L0769: 1, L0590: 1, L0604: 1, L0601: 1, H0667: 1 and H0293: 1. | L0757: 22, L0601: 20, L0747: 14, S0152: 13, L0740: 13, H0617: 10, L0748: 10, L0777: 9, H0623: 7, S0126: 6, S0212: 5, S0360: 5, L0771: 5, L0744: 5, L0759: 5, L0596: 5, H0624: 4, H0549: 4, |
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| 164009, | 168461, | 168461, | 168461, | 180721, | 180840, | 191181, | 193235, | 209901, | 232600, | 259700, | 259770, | 600045, | 600319, | 600528, | 601884 | | | - | | | | | | | | | | | |
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| · | Pro-11 to Phe-16, Thr-48 to Ser-60. |
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| H0309: 3, H0039: 3, | H0617: 3, H0413: 3, | L0809: 3, L0519: 3, | S0126: 3, S0406: 3, | H0576: 3, H0422: 3, | S0134: 2, L0808: 2, | S0116: 2, H0661: 2, | H0663: 2, H0393: 2, | L0394: 2, S0222: 2, | H0586: 2, L0622: 2, | L0623: 2, H0486: 2, | T0109: 2, S0280: 2, | H0581: 2, H0596: 2, | H0231: 2, S0003: 2, | T0006: 2, H0674: 2, | H0598: 2, H0100: 2, | S0438: 2, H0633: 2, | L0772: 2, L0521: 2, | L0767: 2, H0144: 2, | S0374: 2, H0672: 2, | 80328: 2, 80330: 2, | 80152: 2, 80032: 2, | L0755: 2, L0759: 2, | S0031: 2, H0595: 2, | S0026: 2, T0002: 1, | H0686: 1, H0685: 1, | S6024: 1, H0294: 1, | H0255: 1, H0669: 1, | H0664: 1, H0177: 1, |
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| , S0444: | S0045 | H041 | , S6022 | , H0609: | 1, H0013: | , H004 | , H042 | 1, H0052: 1 | 1, H0597: 1 | , H054 | , H015 | 1, H0023: 1 | , L016 | 1, S0048: 1 | , S0051: | , H023 | , T002 | , H060 | l, H0163: 1 | , ноез | , T0069 | , H049 | , S0144: | , S0344 | , L0762 | . L0769 | , L0761: 1 | , L0773 | , L0803 |
| \$0376: 1 | S0410-1 S0045-1 | 0132: 1 | S0278: 1, S6022: 1 | 10441: 1, | F0039: 1, | H0635: 1, H0042; | T0048: 1 | H0173: 1 | H0204: 1 | H0044: 1 | H0046: 1 | H0009: 1 | 10373: 1 | H0201: 1 | S0388: 1 | 10408: 1 | H0622: 1, T0023: | H0031: 1 | H0673: 1 | [0040: 1 | H0616: 1, T0069: 1, | 0041:1 | H0646: 1, | S0142: 1, S0344: | 0598: 1 | J0763: 1, L0769: 1 | .0637: 1. | J0373: 1, L0773: 1 | .0522: 1, L0803 |
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| | . & & & & & & & & & & & & & & & & & & & | Pro-28 to Gln-35, Leu-71 to Pro-77. | Thr-121 to Asn-126, L0771: 5, L0439: 5 Ala-134 to Ala-140, L0761: 4, L0794: 4, Arg-174 to Arg-184, L0809: 4, L0666: 4, |
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| L0743: 4, L0758: 4, | H063 | 107 | .0803: 3, L0659: | .0790: 3, H0662: 2, | H0181: 2, S0144: 2, | S0142: 2, L0800: 2, | .0663: 2, H0539: 2, | .0740: 2, L0750: 2, | 40713: 1, H0583: | 30212: 1, H0483: | 1, S0418: | 50356: 1, S0360: | S0222: 1, H0486: | 70109: 1, H0250: | H0575: 1, H0253: | H0052: 1, H0194: | H0544: 1, H0546: | H0545: 1, H0024: | H0355: 1, H0688: | H0617: 1, H0124: | H0135: 1, H0163: | H0413: 1, S0038: | 0041: 1, H0509: | 1, L0371: | L0638:] | L0648: | L0804: | L0629: | .0657: 1, L0656: |
| 13: 4, | 61: 3, | H0618: 3, 1 | 33; 3, | 3, | 81: 2, | 12: 2, | 53: 2, | 5.2 | 13: 1, | 2: 1, | H0402: 1, | 6: 1, | 2:1, | 9: 1, | 75: 1, | 52: 1, | 4:1, | 45: 1, | 55:1, | 17: 1, | 35: 1, | 13: 1, | H: 1, | 29: 1, | .0769: 1, | .0764: 1, | 52: 1, | 5: 1, | 7: 1, |
| 202 | Met-208 to Gln-217, H0661: 3, H0638: 3, | 1 |) 07 108 | 103 | H01 | S01 ₂ | 708 | 107 | H07 | S02.1 | H04 | S035 | S022 | <u>10</u> | H05 | H00 | H05 | H05 | H03 | H06 | H01 | H04 | 100 | H0529: | 107 | 107 | L0662: 1 | L0775: 1 | 1065 |
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| : | | | Val-7 to Ser-12, AR033: Leu-79 to Asn-87, AR096: Lys-120 to Ala-125, AR052: Ala-166 to Arg-171, AR039: Gln-234 to Pro-241, L0779: Asp-285 to Gln-290, L0773: L0659: L0659: L0677: L0471: L0471: L0471: L0805: L08057: |
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|)672: 1, 740: 1, 757: 1, | 0766: 6. | 414: 4, | 360: 3, | 1666: 3, | 731: 3, | 0676: 2, | 0457: 2, | 0038: 2, | 3770: 2, | 0144: 2, | 0436: 2, |)485: 2, | 0624: 1, | 0657: 1, | 0358: 1, | 0431: 1, | 0013: 1, | 0194: 1, | 0020: 1, | 0375: 1, | 0003: 1, | 0386: 1, | 0438: 1, | 0422: 1, | ,0765: 1, |
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| | | Pro-16 to Asp-25, L0471: 11, H0251: Arg-44 to Glu-50, L0163: 7, H0599: 5 Ser-63 to Arg-69, H0295: 4, H0373: 4 Glu-108 to Arg-115, S0210: 4, S0126: 3, Lys-122 to Gly-136, S0356: 2, S0358: 2, Arg-143 to Met-151, H0619: 2, H0012: 2 |
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| Asp-167 to Glu-173, H0628: 2, S0364: 2, | Thr-206 to Asp-213. | T0049: 1, S0134: 1 | | : | | | | | | | | | | | | | | | | | | | | | | | | |
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| S0011: 1, H0653: 1, H0665: 1, S0242: 1 and H0506: 1. | S0358: 2, S0360: 2, H0251: 2, H0622: 2, S0144: 2, L0659: 2, L0751: 2, L0777: 2, H0265: 1, S0134: 1, H0657: 1, H0657: 1, H0668: 1, H0685: 1, H0648: 1, H0687: 1, L0662: 1, L0768: 1, L0768: 1, L0774: 1, L0774: 1, L0775: 1, L0806: 1, L0657: 1, L0806: 1, L0549: 1, L0774: 1, L0775: 1, L0806: 1, L0557: 1, L0806: 1, L0557: 1, L0774: 1, L0775: 1, L0774: 1, L0775: 1, L0774: 1, L0775: 1, L0774: 1, L0775: 1, L0774: 1, L0758: 1, L0749: 1, L0758: 1, L0749: 1, L0758: 1, L0759: 1 and S0446: 1. | H0659: 2 and L0378: 1. | H0529: 7, L0766: 6, L0809: 6, L0777: 5, H0428: 3, H0656: 2, H0013: 2, H0620: 2, L0806: 2, L0665: 2, |
| | Pro-83 to Gln-90, S0358: 2, S0360: 2 Ala-123 to Gly-131, H0251: 2, H0622: 2 Glu-174 to Pro-183. S0144: 2, L0659: 2, L0751: 2, L0777: 2, H0265: 1, S0134: 1, H0657: 1, H0486: 1, H0675: 1, H0085: 1, H0085: 1, H0642: 1, H0687: 1, H0644: 1, H0644: 1, L076: 1, L0562: 1, L0774: 1, L0774: 1, L0775: 1, L0774: 1, L0775: 1, L0806: 1, L0657: 1, H0657: 1, H | Arg-88 to Lys-93, Tyr-101 to Gly-107, Arg-169 to Pro-184. | Tyr-1 to Gly-13. |
| | 2630 | 2631 | 2632 |
| | 284 - 925 | 3 - 554 | 2 - 169 |
| | 455 | 456 | 457 |
| | 1012064 | 1012076 | 1012136 |
| | HSPSJ24 | HPCPB22 | HOV DZ22 |

| H0547: 2, L0748: 2, L0747: 2, L0756: 2, L0601: 2, H0484: 1, H0192: 1, S0420: 1, S0358: 1, H0575: 1, H0012: 1, T0010: 1, H0266: 1, H0622: 1, H0165: 1, H0673: 1, L0456: 1, H068: 1, H01560: 1, L077: 1, L0649: 1, L0763: 1, L0649: 1, L077: 1, L0770: 1, L077: 1, L0770: 1, L077: 1, L0770: 1, L077: 1, L0770: 1, L056: 1, L0776: 1, L0518: 1, L0776: 1, L0518: 1, L0778: 1, L0666: 1, L0663: 1, H0520: 1, | `~~~~`~~~ |
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| | Pro-6 to Gln-11. |
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| S0144: 9, H0670: 9, | S0408: 8, S0410: 7, | L0761: 7, L0766: 7, | L0731: 7, L0757: 7, | H0617: 6, L0774: 6, | H0656: 5, H0255: 5, | S0358: 5, H0559: 5, | H0620: 5, L0772: 5, | S0328: 5, L0747: 5, | H0341: 4, H0546: 4, | H0059: 4, L0800: 4, | L0754: 4, L0758: 4, | H0638: 3, H0580: 3, | H0250: 3, S0440: 3, | H0652: 3, S0142: 3, | L0764: 3, L0653: 3, | L0783: 3, S0374: 3, | H0522: 3, H0624: 2, | H0657: 2, H0402: 2, | H0637: 2, H0586: 2, | H0486: 2, H0581: 2, | L0763: 2, L0770: 2, | L0374: 2, L0771: 2, | L0773: 2, L0776: 2, | L0790: 2, S0052: 2, | H0684: 2, S0406: 2, | S3014: 2, S0027: 2, | L0779: 2, L0777: 2, | H0445: 2, L0601: 2, | H0167: 1, H0716: 1, |
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| 00010 1 1 0005.1 | S0218: 1, L3/83: 1, S0116: 1, H0254: 1, | H0306: 1, S0442: 1, | S0354: 1, S0045: 1, | H0549: 1, H0587: 1, | H0635: 1, H0575: 1, | 10590: 1, S0182: 1, | H0318: 1, H0421: 1, | H0150: 1, H0123: 1, | H0083: 1, H0179: 1, | H0628: 1, H0063: 1, | H0100: 1, T0042: 1, | • | S0344: 1, L0769: 1, | L0646: 1, L0644: 1, | L0806: 1, L0655: 1, | L0383: 1, L0791: 1, | L0663: 1, S0216: 1, | H0699: 1, H0703: 1, | H0690: 1, H0672: 1, | S0190: 1, H0187: 1, | H0576: 1, L0611: 1, | S0028: 1, L0749: 1, | L0750: 1, L0755: 1, | H0343: 1, H0668: 1, | H0653: 1, H0543: 1 and | H0422: 1. | H0032: 3, H0090: 3, |
| | <u>n. (A</u> | -14 | S | <u>i.l.i</u> | <u>i-l-a</u> | <u> </u> | <u>, 11</u> | <u></u> | | . | | - Pari | | | | | | | | | | | | | | | Arg-9 to Asp-14, |
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| | 126650, 126650, 164860, 180105, 222800, 274600, 274600, 602081 | |
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| | 7q31 | |
| S0114: 2, H0123: 2, H0494: 2, H0445: 2, H0663: 1, H0455: 1, H0036: 1, H0457: 1, H0050: 1, H0039: 1, H0212: 1, H0433: 1, L0766: 1, S0206: 1 and L0749: 1. | H0521: 181, L0748: 11, H0551: 10, H0617: 8, H0046: 7, L0731: 7, H0623: 6, L0663: 6, H0547: 6, H0265: 5, S0418: 5, H0009: 5, H0553: 5, H0670: 5, L0740: 5, L0759: 5, H0556: 4, S0376: 4, H0135: 4, S0374: 4, H0689: 4, H0435: 4, H0689: 4, H0435: 4, H0689: 4, L0596: 4, H0689: 4, L0596: 4, H0689: 3, S0410: 3, H0683: 3, S0410: 3, H0483: 3, H0620: 3, H0012: 3, H0620: 3, | H0039: 3, H0488: 3, |
| Leu-38 to Gly-59, Pro-62 to Thr-75, Met-83 to Val-90, Thr-94 to Ser-105, Pro-109 to Glu-125, Phe-134 to Ser-139, Ile-141 to Lys-162, Cys-166 to Pro-180, Leu-202 to Pro-207, Ile-248 to Asn-253. | | |
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| .0372: 3, L0764: 3, | .0666; 3, H0519; 3, | S0027: 3, S0028: 3, | .0439: 3, L0750: 3, | .0777: 3, H0665: 3, | H0656: 2, H0638: 2, | .0562: 2, L0539: 2, | S0360: 2, H0208: 2, | S0045: 2, L0717: 2, | H0549: 2, H0586: 2, | H0156: 2, H0052: 2, | H0545: 2, H0024: 2, | H0424: 2, H0213: 2, | 10030: 2, H0087: 2, | H0100: 2, T0042: 2, | H0494; 2, H0560: 2, | H0561: 2, S0440: 2, | .0369: 2, L0640: 2, | .0761: 2, L0646: 2, | .0659: 2, L0540: 2, | .0382: 2, L0809: 2, | .0664: 2, L0438: 2, | H0593: 2, H0648: 2, | H0555: 2, L0757: 2, | _0758: 2, S0434: 2, | L0595: 2, S0192: 2, | H0423: 2, H0422: 2, | H0677: 2, H0624: 1, | S0342: 1, S0218: 1, | H0650: 1, H0657: 1, |
| | | <u></u> | | | 32 | | S | S | | _E | <u> </u> | | <u>::::</u> | | <u></u> | <u>:</u> | <u> </u> | <u></u> | <u> </u> | | | | <u> </u> | | | <u> </u> | | | ш. |
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| 3282: | 0661: | 3420: | 358: | 408: | 0261: |)222: | 0370: | 3005: | 0331: | 3082: | 182: | 0581: | 3196: | 0596: | 0544 | 0020: | 0687: | 340: | H0428: | 0604: | H0628: | 9090 | 0169: | 0124: | 036: | 0063: | 3038: | 0132: | 144: |
| 1, S(| : 1, H | : 1, S(| 1, S0 | 1, 50 | 1, H | : 1, S(| 1, H | : 1, S(| : 1, H | 1, T(| 1, SC | 1, H | 1, H | 1, H | 1, H | : 1, H | 1, H(| : 1, S(| • | 1, H | : 1, H | : 1, H | 1, H(| 1, H(| 1, SC | : 1, H | : 1, S(| 1, H(| : 1, S(|
| H0341: 1, S0282: 1 | H0255: 1, H0661: 1 | H0662: 1, S0420: 1, | S0356: 1, S0358: 1 | 440 | H0645: 1, H0261: | H0550: 1, S0222: 1 | H0441: 1, H0370: | H0587: 1, S0005: 1 | H0333: 1, H0331: | 70040: 1, T0082: | 70048: 1, S0182: | H0318: 1, H0581: | 30049: 1, H0196: 1 | H0251: 1, H0596: | H0327: 1, H0544: | H0572: 1, H0050: | .0471: 1, H0687: | H0286: 1, S0340: 1, | \$0003: 1 | H0033: 1, H0604: | 10644: 1, | H0181: 1, H0606: | .0055: 1; H0169: | .0455: 1, H0124: 1 | S0366: 1, S0036: 1 | H0040: 1, H0063: 1, | H0433: 1, S0038: 1, | .0475: 1, H0132: 1 | H0641: 1, S0144: |
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| | 3 121050, 126150, 159000, 175100, 175100, 175100, |
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| | 5q22-q2 |
| S0422: 1, S0002: 1, L0598: 1, H0529: 1, L0643: 1, L0374: 1, L0645: 1, L0648: 1, L0650: 1, L0375: 1, L0653: 1, L0776: 1, L0653: 1, L0776: 1, L0634: 1, L0647: 1, L0792: 1, H0144: 1, H0701: 1, S0126: 1, H0670: 1, H0539: 1, S0378: 1, H0539: 1, S0152: 1, H0539: 1, S0152: 1, L0741: 1, L0743: 1, L0743: 1, L0779: 1, L0743: 1, L0779: 1, L0743: 1, L0779: 1, L0752: 1, L0779: 1, L0752: 1, L0779: 1, L0752: 1, L0779: 1, L0752: 1, | Arg-1 to Ala-11, L0740: 13, L0731: 10, 5q22-q23 Ser-118 to Gin-126, L0755: 8, L0752: 6, Leu-200 to Thr-207, H0551: 5, L0766: 5, Lys-213 to Ala-218, H0672: 5, L0776: 4, Glu-225 to Thr-230. L0757: 4, L0759: 4, H0494: 3, L0775: 3, |
| · | Arg-1 to Ala-11, Ser-118 to Gln-126, Leu-200 to Thr-207, Lys-213 to Ala-218, Glu-225 to Thr-230. |
| · | 2636 |
| | 2 - 691 |
| | 461 |
| | 1012459 |
| | НОСЕПС |

| 175100, | 175100, | 175100, | 179095, | 192974, | 192974, | 601596 | | | | | | | | | | | | | • | | | | | | | | - | | |
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| L0529: 3, H0521: 3, | H0318: 2, H0178: 2, | H0553: 2, H0641: 2, | L0763: 2, L0770: 2, | L0769: 2, L0662: 2, | L0651: 2, L0659: 2, | L0519: 2, L0750: 2, | S0434: 2, H0624: 1, | T0002: 1, H0650: 1, | S0212: 1, H0638: 1, | S0358: 1, S0444: 1, | H0637: 1, S0132: 1, | H0431: 1, H0586: 1, | H0497: 1, H0530: 1, | H0546: 1, H0545: 1, | H0355: 1, H0510: 1, | S0314: 1, H0598: 1, | H0413: 1, H0560: 1, | S0438: 1, H0509: 1, | H0633: 1, S0422: 1, | L0371: 1, L0764: 1, | L0765: 1, L0768: 1, | 1, | L0806: 1, L0657: 1, | L0809: 1, L0664: 1, | L0665: 1, H0144: 1, | H0547: 1, H0682: 1, | H0435: 1, H0648: 1, | H0539: 1, S0380: 1, | S0152: 1, H0555: 1, |
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| | | 6p21.3 |
| L0749: 1, L0758: 1, H0445: 1, L0595: 1 and S0192: 1. | L0758: 5, L0769: 4, L0766: 3, L0809: 3, L0774: 2, L0790: 2, L0653: 2, L0439: 2, L0752: 2, S0218: 1, H0583: 1, S0442: 1, S6022: 1, H0441: 1, H0574: 1, H0150: 1, L0770: 1, L0369: 1, L0648: 1, L0764: 1, L0648: 1, L0662: 1, L0668: 1, L0664: 1, L0666: 1, L0664: 1, L0798: 1, L0743: 1, L0741: 1, L0743: 1, L0748: 1, L0743: 1, L0748: 1, L0777: 1, L0759: 1, S0434: 1 and L0559: 1, S0434: 1 and L0759: 1, S0434: 1 and | H0521: 91, H0580: 23, H0522: 22, H0445: 14, H0638: 12, H0656: 11, |
| | Gln-3 to Cys-12, Thr-19 to Thr-25. | |
| | 2637 | 2638 |
| | 2 - 829 | 313 - 834 |
| | 462 | 463 |
| | 1012469 | 1012482 |
| | HVVBD93 | НСОМУ86 |

| 120290, | 120810, | 120820, | 142857, | 142858, | 150270, | 167250, | 170261, | 177900, | 179450, | 201910, | 217000, | 222100, | 233100, | 235200, | 248611, | 256550, | 256550, | 600202, | 600261, | 601868, | 602280, | 602475 | | | - | | | | |
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| H0486: 8, H0090: 7, | H0583: 5, H0125: 5, | S0358: 5, H0581: 5, | H0591: 5, H0561: 5, | H0657: 4, S0442: 4, | H0575: 4, H0634: 4, | H0134: 4, H0427: 3, | H0318: 3, H0050: 3, | H0264: 3, H0648: 3, | H0518: 3, L0599: 3, | H0650: 2, S0376: 2, | S0408: 2, H0586: 2, | H0069: 2, H0635: 2, | H0086: 2, H0252: 2, | H0488: 2, H0560: 2, | H0641: 2, L0776: 2, | H0660: 2, L0748: 2, | .0745: 2, S0434: 2, | H0265: 1, H0556: 1, | S0360: 1, H0676: 1, | H0637: 1, H0619: 1, | H0393: 1, H0440: 1, | 10549: 1, H0431: 1, | H0592: 1, H0574: 1, | H0250: 1, H0004: 1, | H0421: 1, H0242: 1, | H0375: 1, H0109: 1, | [0023: 1, H0031: 1, | H0673: 1, H0376: 1, | H0063: 1, S0440: 1, |
|)H |)H | 0 <u>S</u> |)H | OH |)H | H | H | H |)H |)H | <u>80</u> | OH . | H |)H |)H |)H | <u>រ</u> |)H | SO SO |)H |)H | H |)H |)H | OH | OH. | <u> </u> | HO | HO |
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| H0647: 1, H0646: 1, S0002: 1, S0426: 1, L0768: 1, L0649: 1, L0805: 1, L0659: 1, H0702: 1, H0689: 1, H0684: 1, H0670: 1, H0539: 1, H0709: 1, S0146: 1, H0576: 1, L0749: 1, L0754: 1, L0777: 1, L0750: 1, L0755: 1, S0260: 1, S0308: 1, H0707: 1 and H0506: 1. | L0777: 14, L0748: 9, L0747: 7, S0026: 6, S0360: 4, H0519: 4, L0749: 4, L0759: 4, H0614: 3, H0686: 3, L0662: 3, L0794: 3, L0766: 3, H0659: 3, L0766: 3, L0739: 3, L0770: 3, L0754: 3, L0750: 3, S0276: 3, H0657: 2, H0171: 2, H0657: 2, H0341: 2, S0212: 2, S0426: 2, S0356: 2, S0444: 2, |
| • | Met-8 to Lys-13, Pro-23 to Trp-30. |
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| S0222: 2, H0392: 2, | H0486: 2, H0266: 2, | 767: 3 | .0803: 2, L0805: 2, | .0655: 2, L0657: 2, | .0659: 2, L0809: 2, | H0144: 2, S0374: 2, | L0758: 2, | S0436: 2, L0591: 2, | .0485: 2, H0556: | H0220: 1, H0656: 1, | . 199 | H0662: 1, S0358: 1, | 108: 1 | 619: | H0600: 1, H0643: | 427: | H0156: 1, H0599: | 010 | S0346: 1, H0318: | H0251: 1, L0163: 1 |)51: 1 | H0271: 1, H0644: | H0111: 1, H0617: | H0673: 1, H0169: | .0456: 1, H0376: | H0598: 1, H0591: | H0040: 1, H0063: | H0413: 1, T0042: 1, | S0294: |
| 2, HO | 2, H0 | 2, 10 | 2, LO | 2, 10 | 2, 10 | 2, S0 | 2, LQ | 2, 10, | 2, H0 | 1, H0 | 1, HO | 1, S0 | 1, SQ | 1, HO | 1, H0 | 1, H0 | 1, H0 | 1, S0 | 1, H0 | 1, 5 | 1, S0(| 1, 田 | 1, HC | 1, HC | 1, HO | 1, HC | 1, HC | 1, TO | 1, S0 |
| 222: (| 486: | H0032: 2, L0767: | 803: | 655: | 629: | 144 | .0756: 2, | 436: (| 485: | 1220: | 001: | 662: | S0376: 1, S0408: 1 | S0410: 1, H0619: | 9000 | 013: | 156: | H0575: 1, S0010: | 346: | 251: | S0388: 1, S0051: 1 | 271: |)111: | 673: | 456: | 598: | 940 | 413: | H0560: 1, |
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| <u> </u> | 012536 465 2 - 310 2640 Lys-2 to Glu-13, H0672: 2 Asn-39 to Glu-47, Arg-49 to Glu-56, Lys-73 to Arg-85. | 466 3 - 731 2641 |
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| · . | HVVBL04 1012536 | HVVAF65 1012542 |

| 150200, | 154275, | 162100, | 170500, | 170500, | 170500, | 180860, | 182452, | 230200, | 249000, | 253250, | 264470 | | | | | | | | | | | | | | | | 120220, | 120240, | 123580, |
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| S0136: 2, L0740: 2, | L0747: 2, L0749: 2, | L0599: 2, L0362: 2, | H0170: 1, S0470: 1, | L0005: 1, S0354: 1, | S0376: 1, S0045: 1, | S0278: 1, H0642: 1, | H0331: 1, H0574: 1, | H0036: 1, S0346: 1, | H0318: 1, L0157: 1, | H0050: 1, L0471: 1, | H0024: 1, H0275: 1, | H0594: 1, H0267: 1, | S0003: 1, H0031: 1, | H0412: 1, T0069: 1, | H0100: 1, T0041: 1, | L0475: 1, S0142: 1, | S0002: 1, L0769: 1, | L0776: 1, L0655: 1, | L0527: 1, L0664: 1, | S0374: 1, L0438: 1, | H0658: 1, H0672: 1, | 50380: 1, S0350: 1, | H0521: 1, S0146: 1, | L0777: 1, L0752: 1, | L0753: 1, L0757: 1 and | L0581: 1. | H0423: 16, H0521: 11, 21q22.3 | L0777: 10, H0622: 9, | L0751: 9, H0641: 8, |
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| H0518: 8, L0596: 8, | H0265: 7, H0039: 6, | L0740: 6, H0543: 6, | T0049: 5, L0770: 5, | L0665: 5, L0757: 5, | H0422: 5, H0556: 4, | H0255: 4, H0046: 4, | H0435: 4, L0731: 4, | L0599: 4, H0254: 3, | H0271: 3, H0090: 3, | L0794: 3, L0766: 3, | S0328: 3, H0522: 3, | S0260: 3, H0224: 2, | H0225: 2, H0713: 2, | S0029: 2, S0376: 2, | 80360: 2, 80132: 2, | H0087: 2, H0494: 2, | L0662: 2, L0806: 2, | L0382: 2, L0438: 2, | H0689: 2, H0670: 2, | H0660: 2, L0748: 2, | L0779: 2, S0436: 2, | H0506: 2, T0002: 1, | H0220: 1, H0159: 1, | H0717: 1, S0114: 1, | L0785: 1, H0341: 1, | S0110: 1, H0671: 1, | H0663: 1, H0402: 1, | S0356: 1, S0358; 1, | H0675: 1, H0676: 1, |
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| S | <u>;11</u> | <u>i Li</u> | <u>#4</u> | <u>.</u> | <u>14</u> | <u>i4i</u> | <u>, 11 (</u> | <u>i.i.i</u> | <u>- 1-1-1</u> | <u>+4</u> | <u>. 11.</u> | <u> </u> | <u>,14</u> | ьЦ і | | | | 브 | <u></u> | | <u></u> | <u>111</u> | | <u> </u> | <u>, i-l-i</u> | <u></u> | | <u> </u> | S |
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| S0434: 1, L0604: 1 and | H0542: 1. | L0766: 9, L0777: 9, | H0529: 8, H0521: 7, | L0731: 7, S0360: 6, | L0758: 6, H0494: 5, | L0749: 5, L0759: 5, | S0376: 4, H0639: 4, | S0422: 4, L0665: 4, | H0144: 4, H0520: 4, | Gly-290 to Asp-300, H0547: 4, L0439: 4, | H0423: 4, S0424: 4, | Asp-373 to Ala-398, H0581: 3, L0471: 3, | Gly-401 to Lys-406, H0266: 3, S0150: 3, | L0764: 3, L0803: 3, | L0659: 3, L0666: 3, | | H0696: 3, L0755: 3, | H0716: 2, H0662: 2, | 50356: 2, 50046: 2, | H0013: 2, H0545: 2, | H0457; 2, H0551; 2, | H0100: 2, L0475: 2, | L0598: 2, L0763: 2, | L0772: 2, L0765: 2, | L0662: 2, L0649: 2, | L0774: 2, L0775: 2, | L0776: 2, L0809: 2, | H0689: 2, S0406: 2, |
| | | Cys-2 to Ser-16, | Glu-55 to Lys-61, | Pro-83 to Leu-88, | Ser-135 to Pro-148, | Val-152 to Arg-163, | Pro-223 to Thr-230, S0376: 4, H0639: 4 | Ala-242 to Val-253, S0422: 4, L0665: 4, | Arg-258 to Glu-274, H0144: 4, H0520: 4, | Gly-290 to Asp-300, | Lys-337 to Asn-345, H0423: 4, S0424: 4, | Asp-373 to Ala-398, | Gly-401 to Lys-406, | Gin-410 to Ala-430, L0764: 3, L0803: 3, | Pro-433 to Gln-460. | | | | | | | | | | | | | |
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| 28: 2, | 17:2, | 2: 2, | 8: 2, | 58: 2, | 24: 1, | 4: 1, | 41: 1, | 34: 1, | 38: 1, | 2: 1, | 8: 1, | 7: 1, | 0: 1; | 2: 1, | 97: 1, | 35: 1, | 27: 1, | /5: 1, | 6: 1, | 2: 1, | 21: 1, | <u>‡</u> | 46: 1, | 55: 1, | 12: 1, | 88: 1, | 3: 1, | 35: 1, | 53: 1, |
| H0478: 2, S0028: 2, | .0744: 2, L0747: 2, | 0750: 2, L0752: 2, | 0757: 2, L0608: 2, | 0362: 2, H0668: 2, | . H06 | HO713: 1, S0114: 1, | H0657: 1, H0341: 1, | S0212: 1, H0484: 1 | H0449: 1, H0638: 1, | S0418: 1, S0442: | , S035 | S0444: 1, S0007: 1 | . S03C | L0717: 1, S0222: 1, | , H0497: | | 10486: 1, H0427: | 30280: 1, H0575: 1 | , S034 | .0105: 1, S0182: | 30474: 1, H0421: 1 | , H05 | , H0046: | , H0565: | , H0012: | , H0188: | , \$0003: | H0428: 1, H0535: | H0031: 1, H0553: |
| 478: 2 | 74:2 | /50: 2 | 157:2 | 562: 2 | 500: 2 | 713: 1 | 557: 1 | 112: 1, | 149: 1 | 118: 1, | 54: 1, | 4.1. | 176: 1, | 117:1 | H0587: 1, | S0414: 1, | 186: 1 | 80: 1, | 336: 1 | 05: 1 | 74: 1, | 263: 1 | 10546: 1, | V0006: 1, | 40050: 1, | H0594: 1, | H0687: 1, | t28: 1 |)31:1 |
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| H0090: 1, H0616: 1 | T0067: 1, | H0560: 1, H0561: | S0294: 1, S0440: | H0633: 1, H0647: | L0762: 1, | L0373: 1, L0372: 1, | L0641: 1, | L0773: 1, | L0768: 1, | L0804: 1, | L0806: 1, | L0807: 1, | L0517: 1, | L0792: 1, | S0374: 1, | | H0593: 1, | H0658: 1, | H0672: 1, | H0539: 1 | S0380: 1, | H0522: 1 | S0176: 1, | L0756: 1 | S0434: 1. | L0592: 1 | L0366: 1 | H0667: 1 | H0422: 1 |
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| S0460: 1, H0506: 1 and H0352: 1. | H0615: 2 and H0343: 1. | Arg-41:to Gly-65, L0581: 63, L0748: 35, Pro-88 to Ser-96, H0575: 22, L0599: 19, Thr-104 to Thr-141, H0046: 17, L0659: 17, Glu-209 to Asn-214, L0745: 16, H0510: 15, Arg-263 to Ser-269, L0662: 15, L0665: 15, Ser-274 to Ala-279, L0747: 14, H0509: 12, Lys-290 to Ile-296, L0744: 12, L0754: 12, L0754: 12, Lys-320 to Glu-333, H0069: 11, L0751: 11, Val-517 to Ala-522. H0574: 10, L0750: 10, H0031: 9, H0124: 9, L0757: 9, H0124: 9, L0757: 9, H0124: 9, L0757: 9, H0124: 9, L0757: 9, H0150: 8, H0039: 8, S0360: 7, S0132: 7, H0644: 7, S0027: 7, S0212: 6, H0591: 6, L0806: 6, H0658: 6, S0044: 6, S0028: 6, S00358: 5, H0549: 5, H0251: 5, H0014: 5, H0625: 5, L0600: 5, H0632: 4, H0618: 4, H0632: 4, H0618: 4, H0632: 4, H0618: 4, H0038: 4, L0770: 4 |
| | Arg-33 to Gly-38, Pro-40 to Lys-52. | Arg-41 to Gly-65, Pro-88 to Ser-96, Thr-104 to Thr-141, Glu-209 to Asn-214, Arg-263 to Ser-269, Ser-274 to Ala-279, Lys-320 to Ile-296, Lys-320 to Glu-333, Val-517 to Ala-522. |
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| 1.0525: 4. L0809: 4. | .0663: 4, H0670: 4, | H0555: 4, L0758: 4, | .0603: 4, H0650: 3, | H0663: 3, H0550: 3, | F0060: 3, S0280: 3, | H0042: 3, S0314: 3, | .0142: 3, H0135: 3, | 0763: 3, L0372: 3, | .0766: 3, L.0775: 3, | 0666: 3, H0144: 3, | H0693: 3, S0126: 3, | 10682: 3, S0380: 3, | H0436: 3, S0037: 3, | 759: 3, S0031: 3, | H0445: 3, L0361: 3, | S0011: 3, H0662: 2, | 10619: 2, H0333: 2, | H0486: 2, H0013: 2, | ,0021: 2, H0253: 2, | S0010: 2, H0309: 2, | H0123: 2, H0246: 2, | .0163: 2, H0355: 2, | H0188: 2, S0312: 2, | H0615: 2, H0688: 2, | H0424: 2, H0553: 2, | H0617: 2, L0455: 2, | H0641: 2, H0646: 2, | S0422: 2, L0646: 2, | .0794: 2, L0804: 2, |
| 0.1 | | OH | <u>3</u> | OH. | <u>) 1.</u> | OH) | <u>1</u> | | <u> </u> | <u>3</u> | OH |)H | HC | <u>3</u> | Ħ | SO | H | H | 3 | <u> </u> | Ħ | ĭ | Ä | | | • | H | <u>N</u> | <u>.11</u> |
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| L0774: 2, L0375: 2, | L0805: 2, L0776: 2, | L0655: 2, L0559: 2, | 1,0664: 2, 1,0565: 2, | H0684: 2, S3014: 2, | L0743: 2, L0439: 2, | L0746: 2, L0756: 2, | L0593: 2, S0196: 2, | H0624: 1, H0220: 1, | H0222: 1, L0393: 1, | H0657: 1, H0656: 1, | H0381: 1, H0341: 1, | S0298: 1, S0282: 1, | H0254: 1, H0255: 1, | H0661: 1, H0638: 1, | S0007: 1, S0300: 1, | H0411: 1, S0278: 1, | S6022: 1, H0441: 1, | H0431: 1, H0357: 1, | H0586: 1, H0587: 1, | H0497: 1, H0635: 1, | L0022: 1, H0318: 1, | S0474: 1, H0581: 1, | S0049: 1, H0052: 1, | H0205: 1, H0545: 1, | H0457: 1, H0086: 1, | H0081: 1, H0050: 1, | H0012: 1, H0024: 1, | H0015: 1, H0051: 1, |
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| S6028: 1, S0318: 1, S0316: 1, S0250: 1, H0328: 1, L0483: 1, | S0366: 1, H0598: 1, H0616: 1, H0087: 1, H0264: 1, H0488: 1, | 10004: 1, 10534: 1, H0625: 1, H0652: 1, S0002: 1, L0762: 1, L0640: 1, L0631: 1, | L0651: 1, L0653: 1, L0658: 1, L0384: 1, L0545: 1, L0791: 1, S0428: 1, H0520: 1, | H0593: 1, H0689: 1, H0659: 1, H0672: 1, S0328: 1, S0330: 1, S0378: 1, L0602: 1, | S0118: 1, S3012: 1, S0390: 1, L0741: 1, L0742: 1, L0740: 1, L0752: 1, L0731: 1, H0595: 1, L0362: 1, H0668: 1, H0543: 1. |
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| H0422: 1, S0042: 1, | H0008: 1 and H0352: 1. | L0439: 13, L0748: 11, | L0601: 8, L0747: 7, | L0750: 7, L0438: 5, | L0757: 5, L0770: 4, | L0769: 4, L0764: 4, | L0766: 4, L0731: 4, | 1.0803: 3, 1.0775: 3, | L0666: 3, H0521: 3, | 1.0751: 3, 1.0758: 3, | S0418: 2, H0550: 2, | H0013: 2, H0052: 2, | H0622: 2, H0494: 2, | L0646: 2, L0771: 2, | L0774: 2, L0663: 2, | L0565: 2, H0593: 2, | H0689: 2, H0672: 2, | S0328: 2, L0752: 2, | L0587: 2, L0600: 2, | H0556: 1, H0583: 1, | H0656: 1, H0341: 1, | S0001: 1, S0360: 1, | H0549: 1, H0455: 1, | H0586: 1, H0587: 1, | H0156: 1, H0253: 1, | H0318: 1, H0581: 1, | F0110: 1, H0150: 1, | H0019: 1, H0050: 1, | H0620: 1, S0050: 1, |
| | | Lys-52 to Ser-59, | Lys-121 to Pro-128, | Ser-183 to Thr-189. | | | | | | | | | | | | | | | | | | <u>~</u> | | | | | | <u> </u> | I |
| | | 2646 | | • | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | 7q34-qter |
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| H0373: 1, H0355: 1, S6028: 1, H0271: 1, S0003: 1, H0252: 1, H0524: 1, H0124: 1, S0036: 1, H0124: 1, S0036: 1, H0264: 1, H0056: 1, H0056: 1, H0056: 1, L0435: 1, S0422: 1, S0422: 1, S0422: 1, L0773: 1, L0768: 1, L0773: 1, L0783: 1, L0792: 1, L0664: 1, L0665: 1, H0659: 1, H0659: 1, H0659: 1, H0659: 1, L0779: 1, L0740: 1, S0330: 1, S3012: 1, S0027: 1, L0740: 1, L0759: | 1. H0672: 1 and S3014: 1. H0036: 1, H0644: 1, H0672: 1 and L0603: 1. |
| | Arg-11 to Arg-20. |
| | 2647 |
| · | 44 - 643 |
| | 472 473 |
| | 1012645 1012646 |
| | HVVBK78 HVVBK73 |

| 250800, 250800, 250800 | 107250, 134820, 134820, 134830, 134850, 134850, 147680, 189800, 266300, 600919 |
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| 22q13.31 | 4q27-q28 |
| L0766: 10, S0358: 4, H0318: 3, L0809: 3, S0360: 2, H0617: 2, H0264: 2, L0769: 2, L0775: 2, H0646: 1, L0761: 1, L0773: 1, L0771: 1, L0773: 1, L0805: 1, H0684: 1, S0374: 1, H0684: 1, L0779: 1 and L0758: 1. | <u>, averaged vergered as v</u> |
| 2649 Asp-49 to Asp-59, Asp-110 to Ile-115, Trp-137 to Ser-144. | Arg-1 to Gly-12, Gly-19 to Trp-25, Asp-31 to Gly-39, Gly-43 to Glu-52, Ala-63 to His-71, Asn-141 to Phe-152, Leu-200 to Leu-208. |
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| нсоммз5 | HVVBJ28 |

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| | 109270, 109270, 109270, 109270, 109270, 148065, 148080, 154275, 156490, 171190, 221820, 221820, 253250, 600119, 600119, 600525, | |
| | 17q21.3 | |
| S0044: 1, H0555: 1, S0260: 1, L0366: 1, H0543: 1 and H0352: 1. | L0747: 15, L0740: 14, L0779: 13, L0439: 9, L0776: 7, L0455: 6, L0776: 6, L0778: 6, L0776: 6, L0778: 6, L0777: 4, L0663: 4, H0672: 4, R0660: 3, H0672: 3, R0046: 3, L0774: 3, L0806: 3, L0774: 3, L0806: 3, L0774: 3, L0806: 3, H0660: 3, H0556: 2, R0649: 2, H0660: 3, L0772: 3, R0678: 2, R0660: 3, R0678: 2, R0660: 2, R0678: 2, R06 | S0366: 2, H0551: 2, |
| 0) 0) 14 | Arg-23 to Thr-28, Val-58 to Leu-67, I Pro-115 to Thr-122. I | |
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| | 102 - 1742 | |
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| 4: 2, | 3: 2, | 5: 2, | 5: 2, | 8: 2, | : 2, -: 2, | 1: 2, | . 2, | 7: 2, | 5: 2, | 1: 2, | 1: 1, | 6: 1, | # 1, | 7: 1, | 5: 1, | 3: 1, | 5: 1, | 5: 1, | 2: 1, | 0: 1, | 1: 1, | 2: 1, | 1: 1, | 3: 1, | 13: 1, | 5: 1, | 2: 1, | 5: 1, | 6: 1, |
| L0625: 2, L0764: 2, | L0771: 2, L0648: 2, | L0768: 2, L0775: 2, | L0659: 2, L0666: 2, | L0664: 2, L0438: 2, | S0350: 2, L0611: 2, | L0743: 2, L0751: 2, | L0754: 2, L0749: 2, | L0755: 2, L0757: 2, | L0485: 2, L0595: 2, | L0603: 2, S0011: 2, | H0506: 2, H0171: | H0265: 1, H0686: 1 | S6024: 1, S0114: 1 | S0430: 1, H0657: | L0785: 1, S0116: | S0212: 1, S0418 | S0420: 1, L0005: | S0376: 1, H0675: | H0208: 1, S0132: | H0393: 1, S0300: | S6022: 1, H0261: | H0549: 1, S0222: | H0431: 1, H0391: | H0586: 1, H0333: | H0642: 1, H0643: | L0623: 1, H0485: | H0486: 1, H0122: | S0010: 1, S0346: 1, | T0048: 1, H0196: |
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| H0545: 1, H0046: 1, | H0009: 1, L0157: 1, | 0024: | , S0388: 1 | 0239: | 0594: | 0266:] | H0615: 1, H0428: 1, | 0622: | H0424: 1, H0617: 1 | H0090: 1, H0038: 1 | 10087: | F0067: 1, T0042: 1, | 10561: | S0450: 1, H0641: 1 | S0002: 1 | 0762: | .0763: 1, L0638: 1 | L0372: 1 | 0651: | L0661: 1 | 0383: | L0809: 1 | .0665: | , H0519: | H0683: 1, H0659: 1 | H0651: 1, S0330: 1 | S0380: 1, S0027: 1 | S0206: 1, L0745: 1, | .0759: |
| 5: 1, H | 9: 1, L | 3: 1, H | 4: 1, S | 3: 1, H | 0: 1, H | 8: 1, H | 5: 1, H | 9: 1, H | 4: 1, H | 0: 1, H | 0: 1, H | 7:1,T | 4: 1, H | 0: 1, H | 4: 1, S | 9: 1, L | 3:1,L | 7: 1, Ľ | L0767: 1, L | .0653: 1, L | 5: 1, L | .0382: 1, L | 7:1,L | 4: 1, H | 33: 1, F | 51: 1, S | 0: 1, S | 6: 1, L | 0: 1, L |
| H054 | 000H | H002 | H0014: | H008 | H051 | S6028 | H061 | H003 | H042 | H009 | H004 | T006 | H049 | S045 | S0344: 1 | 1.036 | 107 | 1.063 | 1076 | 1065 | L051 | L038 | 1036 | S0374: 1 | 390H | H065 | S038 | 8020 | 1.075 |
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| · | 107680, 107680, 107680, 107680, 107720, 133780, 147791, 159555, 168000, 186740, 186330, 186330, 186025, 203750, 201640, 600048, 601382, 602574, |
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| | 11q23 |
| S0260: 1, H0595: 1, L0591: 1, L0601: 1, L0366: 1, H0665: 1, H0667: 1, S0458: 1, S0446: 1 and H0352: 1. | L0740: 15, L0748: 14, L0752: 10, H0494: 9, L0775: 10, H0494: 9, L0774: 7, L0754: 7, S0358: 6, S0444: 6, L0771: 6, S0374: 6, L0771: 5, H0032: 5, L0646: 5, L0655: 5, H0580: 4, H0574: 4, H0519: 4, L0770: 4, L0766: 4, L0659: 4, L0659: 4, L0665: 4, L0659: 4, L0659: 4, L0665: 4, H0592: 3, H0090: 3, T0042: 3, L0775: 3, L0662: 3, H0575: 2, H0599: 2, H0575: 2, H0599: 2, H0575: 2, H0581: 2, H0318: 2, H0553: 2, H0355: 2, H0 |
| | Pro-58 to Ser-64. |
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| 264: 2, | 50: 2, | 02: 2, | 03: 2, | 66: 2, | 547: 2, | 559: 2, | 672: 2, | 518: 2, | 521: 2, | 746: 2, | 756: 2, | 758: 2, | 136: 2, | 170: 1, | 002: 1, | 218: 1, | 657: 1, | 212: 1, | 129: 1, | 442: 1, | 410: 1, | S6022: 1, |)586: 1, |)643: 1, | 039: 1, | H0427: 1, | T0082: 1, | 0052: 1, | T0103: 1, |
| H0591: 2, H0264: 2 | S0438: 2, S0150: 2, | S0144: 2, S00 | S0426: 2, L0803: 2, | L0657: 2, L0666: 2, | L0664: 2, H0547: 2, | S0126: 2, H0659: 2, | H0648: 2, H0672: 2, | H0710: 2, H0518: 2, | S0152: 2, H0521: 2, | L0439: 2, L07 | L0750: 2, L0756: 2, | L0731: 2, L07 | S0434: 2, H0136: 2, | L0600: 2, H0 | H0171: 1, T0002: 1, | S0134: 1, S0218: 1, | H0650: 1, H0657: | H0341: 1, S0 | S0282: 1, S0029: | H0125: 1, S0442: | S0354: 1, S0410: 1 | H0619: 1, S6 | H0391: 1, H0586: | H0497: 1, H0643: | H0486: 1, T0039: 1 | T0040: 1, H0 | H0098: 1, TC | H0706: 1, H0052: 1 | H0596: 1, TC |
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| H | H | H | H | H | 08 | <u>H</u> | <u> </u> | H |)H | <u>H</u> |)H | <u>S</u> | <u>H</u> | <u>31</u> | 2 | 27 | <u>3</u> | <u>3</u> | H | <u>H</u> |)H. | 08 | H | H | <u></u> | H | <u>n</u> | H(|
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| | | | 3913 | | | | | | | | | | | | | | | | | | | | | | | | |
| H0542: 1, H0543: 1, | S0424: 1, S0452: 1 and | S0458: 1. | L0439: 7, S0136: 5, | .0438: 4, L0749: 4, | _0777: 4, L0752: 4, | S0010: 3, H0672: 3, | S0116: 2, L0717: 2, | H0013: 2, H0057: 2, | H0068; 2, H0551: 2, | S0002; 2, L0763; 2, | | L0805: 2, L0776: 2, | L0547: 2, L0789: 2, | H0670: 2, H0521: 2, | H0555: 2, L0748: 2, | L0751: 2, L0747: 2, | L0731: 2, L0758: 2, | L0759: 2, L0599: 2, | H0170: 1, T0002: 1, | S0040: 1, S0212: 1, | S0358: 1, S0045: 1, | S0046: 1, H0619: 1, | H0393: 1, H0392: 1, | H0409: 1, H0485: 1, | H0486: 1, H0244: 1, | H0427: 1, L0021: 1, | S0346: 1, H0196: 1, |
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| | 136350, 152760, | 180100, 182900, | 277700, |
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| | 8p11.2 | | |
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| H0031: 1, H0090: 1, H0038: 1, H0063: 1, H0087: 1, H0551: 1, H0042: 1, H0494: 1, H0560: 1, H0142: 1, L0520: 1, L0637: 1, L0521: 1, L0662: 1, L0768: 1, L0794: 1, L0776: 1, L0804: 1, L0776: 1, L0806: 1, L0776: 1, L0655: 1, L0657: 1, L0656: 1, H0519: 1, H0684: 1, H0519: 1, H0684: 1, H0522: 1, H0520: 1, H0522: 1, H0548: 1, H0522: 1, H0548: 1, H0522: 1, H0548: 1, H0548: 1, H0667: 1, H0598: 1, H0667: 1, L0758: 1, H0678: 1, H0523: 1, H0548: 1, H0548: 1, H0667: 1, H0594: 1, H0667: 1, | L0731: 25, H0696: 17, L0754: 13, S0192: 13, | L0809: 12, L0750: 12, L0757: 10, L0519: 9, L0605: 8, L0748: 7, |
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| | 2655 | |
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| 1.0517: 6. | H0672: 6, L0747: 6, | H0369: 5, L0663: 5, | L0758: 5, | H0674: 4, | .0764: 4, L0776: 4, | _0783: 4, L0740: 4, | S0360: 3, H0645: 3, | 10550: 3, H0616: 3, | .0662: 3, L0775: 3, | H0144: 3, H0684: 3, | ,0777: 3, L0590: 3, | 0599; 3, S0026; 3, | S0444: 2, H0489: 2, | 70039; 2, H0575; 2, | , H0545: 2, | , H0031: 2, | H0111: 2, H0032: 2, | H0169: 2, H0038: 2, | , S0440: 2, | .0772: 2, L0363: 2, | , L0804: 2, | , L0384: 2, | .0565: 2, S0126: 2, | S0328; 2, S0013: 2, | H0345: 2, L0743: 2, | .0749: 2, L0756: 2, | .0759: 2, S0260: 2, | H0506: 2, H0624: 1, | H0171: 1, S0342: 1, |
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| 1 vs 107 to Phe 118 H0411: 6. L0517: 6. | Asp-121 to Asn- H0672: 6, | | 136 to Lys-142, | Met-165 to Glu-177. S0358: 4, H0674: 4, | L0764: 4, | L0783: 4, | 50360: 3, | H0550: 3 | L0662: 3, | H0144: 3, | L0777: 3, | 1.0599: 3. | S0444: 2, | T0039: 2 | H0597: 2, H0545: | H0015: 2, H0031: | H0111: 2 | H0169: 2 | T0069: 2, | 1.0772: 2 | L0768: 2, | L0782: 2, | 10565: 2 | S0328: 2 | H0345: 2 | L0749: 2 | L0759: 2 | H0506: 2 | H0171: |
| 1 1/2 | Asp | 127. | Cys | Met | | | | | | | ,,, | | | | | | | | | | | | | | | | | | |
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| H0664: 1. H0662: 1. | S0408: 1, H0339: 1, | S0300: 1, L0717: 1, | H0600: 1, H0592: 1, | H0587: 1, H0486: 1, | H0013: 1, T0082: 1, | S0346: 1, S0474: 1, | H0251: 1, H0085: 1, | H0596: 1, H0231: 1, | H0544: 1, H0123: 1, | T0003: 1, H0014: 1, | L0163: 1, H0375: 1, | H0687: 1, S0214: 1, | H0328: 1, H0553: 1, | H0644: 1, H0163: 1, | H0090: 1, H0551: 1, | H0264: 1, L0386: 1, | L0376: 1, L0784: 1, | ئــ . | • | L0659: 1, L0518: 1, | L0530: 1, L0788: 1, | L0791: 1, L0666: 1, | L0665: 1, H0693: 1, | H0658: 1, H0670: 1, | S0378: 1, S0380: 1, | S0044: 1, S0190: 1, | S0174: 1, S0168: 1, | L0751: 1, L0779: 1, |
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| | 133780, 266150, | 276903, | 276903, 276903 | | | | | | | | | | | | | | | | | | | | | | | |
| | 11913.4- 913.5 | • | | | | | | | | | | ···- | | | | | | | | | | | | | | |
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| | Pro-55 to Asp-61, Gln-66 to Leu-72. | : | | | | | | | | | | | | | | | | | | | | | | | | |
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| | 102200, 106100, 131100, 131100, 133780, 147050, 164009, 168461, 168461, 168461, 188461, |
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| | 11913 |
| H0695: 1, L0770: 1, L0638: 1, L0761: 1, L0667: 1, L0642: 1, L0643: 1, L0764: 1, L0651: 1, L0654: 1, L0783: 1, L0788: 1, L0789: 1, L0665: 1, S0052: 1, H0144: 1, H0703: 1, H0690: 1, H0593: 1, H0690: 1, H0558: 1, H0672: 1, S0378: 1, S0406: 1, H0555: 1, L0758: 1, H0555: 1, L0758: 1, | H0457: 9, H0695: 8, H0542: 7, H0521: 4, H0436: 4, H0581: 3, H0052: 3, H0135: 3, H0656: 2, S0356: 2, H0656: 2, H0641: 2, H0660: 2, L0741: 2, H0560: 1, L0741: 2, H0583: 1, H0255: 1, H0588: 1, S0360: 1, H0580: 1, S0278: 1, H0438: 1, H0492: 1, |
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| · | 482 |
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| 180840, 191181, 193235, 209901, 232600, 259700, | 600045, 600319, 600528, 601884 | | | |
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| H0618: 1, H0318: 1, H0544: 1, H0046: 1, H0123: 1, H0081: 1, T0010: 1, H0083: 1, H0271: 1, H0553: 1, H0163: 1, S0002: 1, | 20052: 1, F0702: 1, H0703: 1, S0374: 1, H0520: 1, H0547: 1, H0690: 1, H0672: 1, H0539: 1, S0380: 1, S0406: 1, H0576: 1, H0445: 1, S0434: 1, L0601: 1, L0366: 1, H0422: 1 and H0506: 1 | S0418: 2, S0328: 2, H0521: 2, H0733: 1, S0132: 1, H0575: 1, H0024: 1, H0135: 1, H0038: 1, S0038: 1, S0406: 1, L0439: 1 and H0543: 1. | H0688: 2, L0766: 2, H0494: 1, L0652: 1, L0731: 1 and L0759: 1 | L0766: 12, L0758: 8, S0422: 7, L0794: 6, H0622: 5, H0666: 5, L0754: 5, L0592: 5, H0040: 4, L0663: 4, |
| H05 H05 H01 H01 H01 | 80 H H H SO H H O SO H H O SO H | HO SO | _ <u></u> | NHHH |
| | | Ile-32 to Phe-42. | | Gln-1 to Asp-24, Phe-40 to Gln-46. |
| | | 2658 | 2659 | 2660 |
| | | 92 - 619 | 2 - 454 | 1524 - 208 |
| | | 483 | 484 | 485 |
| | | 1012711 | 1013085 | 1013213 |
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| 666: 3 | 665:3 | 756: 3 | 731:3 | 434: 3 | 624: 2 | 116:2 | 581: 2 | 598: 2 | 690: 2 | 170: 1 | 134: 1 | 656: 1 | 376: 1 | 1, S0408: 1, | H0329: 1 | 575: 1 | H0046: 1 | 063: 1 | 625: 1 | S0472: 1, | L0761: 1 | 562: 1 | L0364: 1 | L0803: 1 | .0774: 1 | L0784: 1, | L0607: 1, | L0787: 1, | 519: 1 |
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| HQ520: 4, L0666: 3 | .0664: 3, L0665: 3, | H0547: 3, L0756: 3 | .0777: 3, L0731: 3, | .0759: | H0423: 3, H0624: 2, | H0583: 2, S0116: 2, | H0318: 2, H0581: 2, | H0428: 2, L0598: 2, | .0655: 2, H0690: 2, | H0518: 2, H0170: 1, | H0686: 1, S0134: | H0657: 1, H0656: 1 | H0483: 1, S0376: 1, | S0360: 1, | H0580: 1 | H0486: 1, H0575: | H0596: 1, | H0267: 1, H0063: | H0022: 1, H0625: 1 | S0440: 1 | 10529: 1, | .0646: 1, L0662: | .0768: | .0649: | 0650: 1,] | .0651: 1 | .0805: | .0659: 1 | .0792: 1, H0519: |
| | <u> </u> | بلن | اسر | | <u>;14</u> | <u>;-1-;</u> | <u>الملخ.</u> | <u>.11.</u> | <u></u> | <u>;11;</u> | <u>;11;</u> | <u>;11;</u> | <u> </u> | S | <u> </u> | 正 | 正 | <u>æ</u> | 正 | S | 프 | 크 | <u> </u> | 닏 | ᆈ | <u> </u> | ᄀ | <u> </u> | |
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| | | | 4-1 | 6p21.3 |
| . 03000 | H0682: 1, H0659: 1, H0658: 1, H0648: 1, S0380: 1, H0521: 1, H0555: 1, H0576: 1, S0392: 1, L0775: 1, L0749: 1, L0779: 1, H0444: 1, L0608: 1, L0362: 1, H0542: 1, L0465: 1, S0424: 1 and S0462: 1. | H0428: 2, S0114: 1, H0656: 1, H0263: 1, H0615: 1, H0684: 1 and L0749: 1. | | L0740: 4, H0591: 3, H0583: 2, H0013: 2, H0575: 2, H0266: 2, |
| | | Val-10 to Ser-18, Pro-30 to Glu-36, Glu-47 to Gly-54. | Arg-31 to Leu-43, Gly-63 to Trp-78, Thr-84 to Pro-89, Asp-120 to Gly-141, Glu-155 to Val-177, Leu-204 to Ser-214, Pro-230 to Lys-236, Lys-300 to Lys-307, Arg-329 to Ile-340, Arg-329 to Ile-346, Leu-441 to Lys-446, Lys-464 to Glu-455. | Gly-1 to Pro-6, Pro-21 to Ser-44, Pro-51 to Lys-78, |
| | · | 2661 | 7,000 | 2663 |
| | : | 525 - 701 | 112 - 1629 | 212 - 538 |
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| 120290, | 120810, | 120820, | 142857, | 142858, | 150270, | 167250, | 170261, | 177900, | 179450, | 201910, | 217000, | 222100, | 233100, | 235200, | 248611, | 256550, | 256550, | 600202, | 600261, | 601868, | 602280, | 602475 | | | - | | | 103581, | 146150, |
| | | | | | | | | - | | | | | | | | | | | | | | · | | | | | | 15q13 | |
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| H0059: 3, L0769: 3, L0764: 3, H0352: 3, | S0410: 2, H0632: 2, | H0599; 2, H0046; 2, | H0646; 2, S0002: 2, | H0529: 2, L0766: 2, | L0653: 2, L0659: 2, | L0439: 2, L0601: 2, | S0134: 1, H0583: 1, | L0785: 1, S0116: 1, | S0212: 1, H0255: 1, | S0418: 1, S0358: 1, | S0444: 1, H0675: 1, | H0728: 1, H0619: 1, | H0549: 1, H0392: 1, | H0331: 1, T0109: 1, | H0013: 1, H0635: 1, | H0618: 1, S0010: 1, | S0474: 1, H0052: 1, | L0157: 1, H0050: 1, | H0051: 1, H0375: 1, | H0039: 1, H0553: 1, | H0644: 1, L0456: 1, | S0036: 1, H0625: 1, | H0633: 1, L0637: 1, | L0773: 1, L0768: 1, | L0794: 1, L0522: 1, | L0526: 1, L0809: 1, |
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| L0663: 1, L0664: 1, L0665: 1, S0374: 1, L0438: 1, H0547: 1, H0648: 1, S0152: 1, S3014: 1, L0745: 1, L0747: 1, L0749: 1, L0779: 1, L0777: 1, L0597: 1, L0608: 1, | H0519: 2, S0126: 2, H0341: 1, H0125: 1, L0562: 1, S0049: 1, H0123: 1, H0687: 1, H0292: 1, H0284: 1, S0312: 1, S0250: 1, H0622: 1, S0466: 1, L0649: 1, S0037: 1 and | AR096: 62, AR104: 41, AR089: 24, AR060: 24, AR061: 20, AR033: 16, AR053: 11, AR055: 11, AR039: 6 H0644: 5, L0439: 4, L0438: 3, S0278: 2, L0483: 2, H0581: 1, H0046: 1, H0355: 1, H0266: 1, H0355: 1, H0570: 1, H0521: 1, |
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| | 2665 Lys-1 to Lys-21. | |
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| S0260: 1. | S0260: 1. L0526: 11, L0622: 8, H0670: 8, H0087: 7, S0360: 5, H0594: 5, H0188: 5, H0412: 5, S0206: 5, H0218: 4, H0024: 4, H0617: 4, H0024: 4, H0617: 4, H0265: 3, H0663: 3, H0123: 3, H0673: 3, H0123: 3, H0673: 3, H0123: 3, H0673: 3, H0148: 3, S0374: 3, S0366: 3, H0135: 3, H0616: 3, S0374: 3, S0366: 3, H0135: 3, H0616: 3, S0374: 3, S0126: 3, S0374: 3, H0627: 2, H0351: 2, H0657: 2, H0351: 2, H0305: 2, H0351: 2, | H0492: 2, T0039: 2, H0052: 2, H0546: 2, H0178: 2, H0083: 2, H0688: 2, H0068: 2, H0038: 2, H0040: 2, |
| | S0260: 1. Ala-16 to His-30, L0526: 11, L0622: Leu-106 to Gly-112, H0670: 8, H0087: 7, Asp-129 to Pro-137, S0360: 5, H0594: 5, Thr-144 to Leu-150. H0188: 5, H0412: 5, S0206: 5, H0218: 4, H0024: 4, H0617: 4, L0770: 4, L0783: 4, L0770: 4, L0783: 4, L0770: 4, L0783: 4, L0770: 3, H0673: 3, H0123: 3, H0673: 3, L0775: 3, L0776: 3, H0144: 3, S0374: 3, S0126: 3, S0380: 3, S0126: 3, H0352: 3, H0627: 2, H0351: 2, H0657: 2, H0351: 2, H0305: 2, H0351: 2 | |
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| H0509: 2, S0142: 2, | S0426: 2, L0769: 2, | .0521: 2, L0768: 2, | 10689: 2, L0750: 2 | 445: 2, H0 | 586: 1, H0 | H0295: 1, H0294: 1 | 34: 1, S02 | H0650: 1, L0760: 1, | S0116: 1, S0001: 1, | 10483: 1, H0255: 1, | H0662: 1, H0402: 1, | 58: 1, 503 | 575: 1, H0 | 1, S01 | S0278: 1, H0549: | H0441: 1, H0370: | 10455: 1, H0333: | H0643: 1, L0623: 1, | 70060: 1, H0250: 1 | 70082: 1, S0010: 1 | 505: 1, HO | H0327: 1, H0545: 1 | H0150: 1, H0086: 1 | H0012: 1, H0099: 1 | 109: 1, HO | F0023: 1, H0031: | H0181: 1, H0606: 1, | H0166: 1, H0674: 1 | H0124: 1, H0163: 1 |
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| | 114290, 138033, 162100, 170500, 170500, 170500, 180860, 264470 |
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| | 17925 |
| L0783: 2, H0658: 2, H0670: 2, H0648: 2, H0657: 1, S0116: 1, S0001: 1, H0661: 1, H0663: 1, H0438: 1, H0013: 1, S0280: 1, T0082: 1, H0421: 1, H0428: 1, T0067: 1, H0494: 1, L0762: 1, L0644: 1, L0762: 1, L0644: 1, L0762: 1, L0677: 1, L0662: 1, L0677: 1, L0662: 1, L0678: 1, L0662: 1, L0664: 1, H0682: 1, L0677: 1, L0663: 1, L0677: 1, L0663: 1, L0677: 1, L0663: 1, L0677: 1, L0663: 1, L0677: 1, L0751: 1, L0748: 1, L0751: 1, L0747: 1, L0751: 1, | L0603: 8, L0754: 6, L0757: 4, L0758: 4, H0619: 3, H0622: 3, S0354: 2, S0360: 2, H0351: 2, H0586: 2, H0544: 2, N0006: 2, S0250: 2, H0030: 2, |
| | Lys-70 to Tyr-79, L0603: 8, L0754: 6 Lys-97 to Asp-102, L0757: 4, L0758: 4, Ser-154 to Ser-160, H0619: 3, H0622: 3, Asn-162 to Cys-169,S0354: 2, S0360: 2, Lys-212 to Ser-217, H0351: 2, H0586: 2, Ala-225 to Glu-230. H0544: 2, N0006: 2, S0250: 2, H0030: 2, H0644: 2, H0617: 2, |
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| H0032:2 S0144:2 | .0803: 2, L0565: 2, | J0438: 2, L0439: 2, | S0418: 1, S0358: 1, | 30278: 1, H0392: 1, | H0592: 1, H0587: 1, | L0021: 1, H0052: 1, | H0546: 1, T0010: 1, | H0271: 1, H0687: 1, | S0214: 1, T0006: 1, | H0031: 1, H0553: 1, | L0142: 1, H0606: 1, | H0087: 1, S0142: 1, | S0208: 1, S0426: 1, | <u> </u> | | L0653: 1, L0776: 1, | L0782: 1, L0664: 1, | H0519: 1, H0689: 1, | H0690: 1, H0682: 1, | H0658: 1, H0672: 1, | H0555: 1, L0749: 1, | L0756: 1, L0779: 1, | L0755: 1, L0591: 1, | S0026: 1, S0192: 1 and | S0196: 1. | H0428: 3 | | H0123: 2, L0764: 2, |
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| | | 104770, 107670, 110700, 145001, 146790, 159440, 159440, 186780, 191030, 191315, 601923, 601412, 601652, | 602782 |
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| | | 1922 | 11925 |
| L0794: 2, L0803: 2, S0356: 1, H0318: 1, H0551: 1, L0662: 1, L0804: 1, H0658: 1, H0539: 1, L0786: 1, H0543: 1 and H0423: 1. | AR061: 5, AR055: 3, AR096: 3, AR089: 2, AR033: 2, AR060: 2, AR104: 2, AR053: 1 S0038: 1 and S0053: 1. | H0264: 1 and H0522: | L0731: 10, L0758: 9, L0592: 8, L0770: 7, L0439: 7, L0754: 7, L0766: 5, L0764: 4, |
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| | 2672 | 2673 | 2674 |
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| L0564: 1, S0440: 1, UNKWN: 1, L0598: 1, L0371: 1, L0763: 1, L0648: 1, L0761: 1, L0648: 1, L0773: 1, L0648: 1, L0773: 1, L0649: 1, L0773: 1, L0657: 1, L0521: 1, L0783: 1, L0389: 1, L0783: 1, L0776: 1, L0529: 1, L0791: 1, S0374: 1, L0438: 1, H0547: 1, H0659: 1, H0548: 1, S0378: 1, L0742: 1, H0444: 1, L0756: 1, L0744: 1, | |
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| Ala-474 to Gly-481 | Ala-489 to Tyr-494 | Pro-512 to Lys-517 | Arg-623 to Thr-630 | Lys-673 to Ser-678 | Thr-703 to His-709, | Arg-714 to Arg-720 | Glv-755 to Glu-766 | • | | | | | | | | | | | - | | | | | | | | | - | |
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| 2, 0 | , 2, E E | , 4, S | 2, S | 2,1 | 2, U | 2, L | 2, L | 2, H | 1, H | 1, S. | 1, H | 1, S(| 1, S | 1, S | 1, H | 1, H | 1, H | 1, H | 1, H | 1, H | 1, S | 1,1 | 1, L | 1, S | 1, H | 1, T | 1, H | 1, H |
| 775: | .003:)659: | 670: | 521: | 751: | 597: | 485: | 595: | 603: | 583: | 785: | 3402 | 418: | 580: | 393: | 437: | 370: | 486: | H0427: 1, | 575: | 048: | 421: | H0251: 1, | 123: | 051: | 028: | T0023: 1, ' | H0644: 1 | 455: |
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| H0135: 1. H0616: 1. | H0264: 1, H0268: 1, | 0269: 1, H0056: 1, | 0038: 1, T0042: 1, | 0625: 1, H0561: 1, | 382: 1, S0464: 1, | H0633: 1, S0472: 1, | 0649: 1, S0142: 1, | S0422: 1, L0598: 1, | 0369: 1, L0769: 1, | 0772: 1, L0374: 1, | .0764: 1, L0771: 1, | • | ` | 0776: 1, L0661: 1, | - 7 | .0518: 1, L0519: 1, | .0788: 1, S0428: 1, | 10144: 1, H0547: 1 | H0690: 1, H0660: 1 | H0478: 1, H0627: 1 | H0631: 1, S0028: 1 | S0032: 1, L0743: 1 | .0749: 1, L0752: 1, | 0758: 1, S0031: 1 | H0445: 1, L0592: 1 | S0194: 1, H0423: 1 | H0422: 1, S0424: 1 |
| E | H | <u>H</u> | S | Ï | S | H | H | <u>S</u> | <u></u> ∠ | <u> </u> | | <u>, , , , , , , , , , , , , , , , , , , </u> | | <u> </u> | | <u>.,</u> | <u> </u> | <u> </u> | 프 | 正 | | S | | | <u>. 114</u> | S | 1 |
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| H0008: 1. | S0360: 8, S0356: 6, | L0769: 6, L0598: 4, | L0666: 4, L0750: 4, | L0779: 4, L0758: 4, | | L0517: 3, L0809: 3, | S0222: 2, H0592: 2, | L0471: 2, H0169: 2, | L0761: 2, L0764: 2, | L0771: 2, L0776: 2, | L0783: 2, L0664: 2, | H0144: 2, H0670: 2, | S0380: 2, L0748: 2, | L0747: 2, L0777: 2, | S0026: 2, H0624: 1, | H0171: 1, S0040: 1, | S6024: 1, L0002: 1, | H0663: 1, L0005: 1, | S6026: 1, H0351: 1, | H0455: 1, H0600: 1, | T0040: 1, H0244: 1, | S0010: 1, H0052: 1, | L0738: 1, S0316: 1, | H0328: 1, H0615: 1, | H0388: 1, H0135: 1, | T0067: 1, H0059: 1, | H0560: 1, H0647: 1, | L0763: 1, L0646: 1, | L0773: 1, L0662: 1, |
| | Ser-3 to Gln-34, | Pro-43 to Ser-48, | Pro-51 to Tyr-69, | Asn-87 to Pro-92, | Pro-107 to Val-119. | | | | | | | | | • | | | | | | • | | | | | | | | | |
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| .0794: 1, L0805: 1, L0653: 1, L0659: 1, L0790: 1, H0682: 1, H0684: 1, H0672: 1, S0378: 1, S0152: 1, S0028: 1, L0749: 1, L0757: 1, S0196: 1, H0008: 1, H0293: 1 and H0352: 1. | 2, L0372: 1, 1, L0806: 1, 1, H0435: 1 ar 1. | AR096: 5, AR033: 4, AR089: 3, AR053: 3, AR052: 3, AR060: 3, AR039: 2, AR104: 1, AR055: 1, AR061: 1 L0803: 6, L0759: 6, L0766: 3, L0766: 2, L0766: 2, L0794: 2, L0766: 2, L0779: 2, L0596: 2, L0779: 2, L0596: 2, H0140: 2, L0779: 2, L0596: 2, H0170: 1, S0114: 1, H0170: 1, S0114: 1, H0650: 1, S0358: 1, |
| | | Asp-24 to Val-36, Lys-38 to Glu-49, Pro-80 to Ser-90, Thr-131 to Gly-138. |
| | 2677 | 2678 |
| | 396 - 1061 | 3 - 695 |
| | 502 | 503 |
| | 1014754 | 1014849 |
| | HOEBR36 | HLWDZ66 |

| | 125264, 600511, 601556 |
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| | 6p23 |
| S0444: 1, S0360: 1, H0329: 1, S0222: 1, H0497: 1, H0036: 1, S0474: 1, H0051: 1, H0687: 1, S0214: 1, H0615: 1, H0428: 1, H0622: 1, H0523: 1, H0598: 1, H0040: 1, H0598: 1, L0704: 1, L0773: 1, L0774: 1, L0773: 1, L0774: 1, L0773: 1, L0664: 1, S0126: 1, H0689: 1, H0435: 1, H0679: 1, L0748: 1, L0439: 1, L0748: 1, S0031: 1 and S0434: 1. | L0439: 13, L0766: 11, L0747: 11, L0740: 10, L0752: 9, L0776: 8, L0809: 7, L0777: 7, L0769: 6, L0803: 6, L0748: 6, L0759: 6, L0764: 5, H0659: 5, L0755: 5, L0761: 4, L0806: 4, L0438: 4, L0749: 4, L0779: 4, L0758: 4, H0083: 3, L0758: 4, H0083: 3, |
| | Ala-32 to Ala-38, L0439: 13, L0766: Pro-55 to Glu-72, L0747: 11, L0740: 1 Ala-83 to Glu-109, L0752: 9, L0776: 8, Glu-114 to Leu-121, L0809: 7, L0777: 7, Thr-135 to Lys-143, L0769: 6, L0803: 6, Val-173 to Lys-166, L0748: 6, L0759: 6, Val-173 to Ser-178, L0764: 5, H0659: 5, Lys-185 to Gln-195, L0755: 5, L0761: 4, Pro-208 to Thr-214, L0806: 4, L0438: 4, Gln-243 to Arg-253, L0749: 4, L0779: 4, Lys-259 to Lys-264, L0758: 4, H0083: 3, L0796: 3, L0662: 3, |
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| L0783: 3, L0663: 3, | H0658: 3, L0743: 3, | .0744: 3, L0751: 3, | 0750: 3, L0731: 3, | S0026: 3, S0134: 2, | H0657: 2, S0010: 2, | H0544: 2, S0051: 2, | 66: 2, S0003: 2, | H0622: 2, L0763: 2, | .0768: 2, L0804: 2, | .0774: 2, L0775: 2, | .0655: 2, L0545: 2, | .0665: 2, H0547: 2, | H0689: 2, S0380: 2, | S3012: 2, S3014: 2, | .0756: 2, H0595: 2, | 88: 2, L0605: 2, | .0362: 2, L0601: 2, | S0424: 2, H0624: 1, | H0171: 1, H0556: 1, | S0212: 1, H0664: 1, | L0005: 1, S0354: 1, | 60: 1, S0410: 1, | 580: 1, S0046: 1, | H0393: 1, H0411: 1, | H0549: 1, H0370: 1, | | H0318: 1, S0474: 1, | H0085: 1, T0115: 1, | H0327: 1, H0545: 1, |
| 3.007 | 90H | <u>1707</u> | 7.07 | 300S | 90H | H05 | H02 | 90H | L07 | 107 | 907 | 907 | 90H | · S30 | 101 | 507 | T03 | S04 | 10H | S02 | <u> </u> | 803 | HO; | OH | HO | OH . |)OH |)OH | HO |
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| H0046: 1, N0006: 1, | S0388: 1, S0214: 1, | _ | | H0591: 1, H0038: 1, | H0040: 1, H0616: 1, | T0067: 1, H0413: 1, | S0386: 1, T0042: 1, | H0560: 1, L0598: 1, | H0529: 1, L0520: 1, | L0762: 1, L0772: 1, | L0646: 1, L0771: 1, | L0794: 1, L0375: 1, | L0805: 1, L0657: 1, | L0367: 1, L0787: 1, | L0666: 1, H0144: 1, | S0126: 1, H0648: 1, | Ŧ, | _ | L0754: 1, L0757: 1, | H0667: 1, H0216: 1 and | H0543: 1. | L0803: 4, L0745: 3, | L0804: 2, L0805: 2, | H0672: 2, L0742: 2, | L0752: 2, L0759: 2, | H0583: 1, H0369: 1, | H0550: 1, H0013: 1, |
| | | | • | | | | | | | | | | | | | | | - | | | | Ser-1 to Tyr-6. | • | | | | |
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| H0156: 1, H0085: 1, L0351: 1, H0509: 1, L0769: 1, L0776: 1, L0657: 1, L0809: 1, L0666: 1, H0684: 1, L0439: 1, L0779: 1, L0777: 1, L0753: 1, | L0809: 8, L0666: 8, S0436: 8, H0038: 6, S0330: 6, S0442: 5, S0440: 5, L0794: 5, L0663: 5, H0040: 4, L0776: 4, L0754: 4, L0601: 4, L0754: 4, L0601: 4, L0754: 4, L0601: 4, L0754: 3, L0763: 3, L0776: 3, L0659: 3, L0659: 3, L0659: 3, H0658: 3, H0672: 3, H0341: 2, H0125: 2, H0341: 2, H0135: 2, H0363: 2, H0363: 2, H0363: 2, H0372: 2, H0561: 2, L0768: 2, L0766: 2, L0766: 2, L0768: |
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| L0522: 2, L0806: 2, | S0374: 2, H0547: 2, | H0519: 2, S0126: 2, | H0659: 2, L0745: 2, | L0750: 2, L0752: 2, | S0434: 2, H0506: 2, | H0265: 1, H0556: 1, | S0040: 1, H0717: 1, | H0294: 1, H0583: 1, | H0657: 1, L0785: 1, | H0669: 1, H0671: 1, | H0661: 1, H0663: 1, | H0664: 1, S0420: 1, | L0005: 1, S0356: 1, | S0132: 1, H0619: 1, | H0351: 1, S0222: 1, | S0220: 1, H0431: 1, | T0039: 1, H0618: 1, | T0110: 1, L0738: 1, | H0570: 1, H0569: 1, | L0471: 1, H0292: 1, | H0039: 1, H0034: 1, | H0031: 1, H0553: 1, | L0055: 1, H0166: 1, | H0169: 1, H0674: 1, | H0068: 1, H0598: 1, | S0036: 1, H0163: 1, | H0591: 1, H0359: 1, | S0450: 1, H0647: 1, | H0646: 1, S0344: 1, |
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| .0638: 1, L0641: 1, | L0363: 1, L0649: 1, | - | L0527: 1, L0657: 1, | L0512: 1, L0783: 1, | L0382: 1, L0787: 1, | L0532: 1, S0216: 1, | L0438: 1, H0520: 1, | H0593: 1, H0690: 1, | H0682: 1, H0683: 1, | H0435: 1, H0670: 1, | H0660: 1, H0666: 1, | H0648: 1, S0380: 1, | H0518: 1, H0696: 1, | S0044: 1, S0146: 1, | S0406: 1, S3012: 1, | S0027: 1, S0028: 1, | L0746: 1, L0749: 1, | L0779: 1, L0777: 1, | L0731: 1, L0758: 1, | S0031: 1, L0599: 1, | _ | H0668: 1, H0665: 1, | S0276: 1, H0423: 1, | S0424: 1, UNKWN: 1, | L0600: 1 and H0008: 1. | L0766: 7, L0769: 4, | L0747: 4, L0758: 4, |
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| H0251: 3, L0805: 3, | S0007: 2, S0414: 2, | H0644: 2, H0672: 2, | S0026: 2, H0686: 1, | H0713: 1, H0663: 1, | S0376: 1, S0360: 1, | S0046: 1, L0717: 1, | H0574: 1, H0486: 1, | H0427: 1, H0596: 1, | L0040: 1, L0738: 1, | H0046: 1, H0571: 1, | L0471: 1, S0051: 1, | H0510: 1, S0003: 1, | S0214: 1, H0674: 1, | H0708: 1, H0038: 1, | H0412: 1, H0646: 1, | S0002: 1, L0773: 1, | L0662: 1, L0767: 1, | L0794: 1, L0804: 1, | _: | L0606: 1, L0783: 1, | L0792: 1, L0665: 1, | H0660: 1, H0648: 1, | H0521: 1, H0555: 1, | L0743: 1, L0756: 1, | L0777: 1, L0755: 1, | L0759: 1, S0031: 1, | L0362: 1, H0542: 1 and | H0543: 1. | L0777: 11, L0438: 7, |
| Leu-33 to Thr-53. | | | | | | | | | | | | | | | | | | | | | , | | | | | | | | |
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| L0759: 6, L0748: 5, H0052: 4, L0779: 4, H0013: 3, L0598: 3, L0770: 3, H0624: 2, H0717: 2, S0442: 2, S0354: 2, L0149: 2, S0046: 2, S0010: 2, H0050: 2, H0328: 2, H0670: 2, H0660: 2, L0776: 2, L0747: 2, L0749: 2, L0747: 2, L0789: 1, H0171: 1, L0785: 1, H0542: 2, H0170: 1, H0171: 1, S0358: 1, H0549: 1, S0358: 1, H0632: 1, S0414: 1, S0474: 1, S0049: 1, H0194: 1, | H0051: 1, S0051: 1, T0010: 1, H00648: 1, H0644: 1, H0628: 1, H0316: 1, S0036: 1, H0040: 1, H0413: 1, H0100: 1, S0150: 1, L0769: 1, L0373: 1, L0765: 1, L0662: 1, L0794: 1, |
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| L0649: 1, L0804: 1, L0805: 1, L0789: 1, L0666: 1, L0663: 1, L0665: 1, H0144: 1, S0374: 1, H0520: 1, H0658: 1, H0666: 1, H0672: 1, S0380: 1, S0406: 1, L0754: 1, L0756: 1, L0758: 1, | L0766: 5, L0438: 3, L0777: 3, H0090: 2, L0439: 2, L0731: 2, L0759: 2, S0114: 1, H0318: 1, L0471: 1, H0695: 1, L0803: 1, L0774: 1, L0775: 1, L0776: 1, L0806: 1, L0776: 1, L0809: 1, L0666: 1, H0690: 1, H0683: 1, H0659: 1, H0683: 1, H0659: 1, H0679: 1. | L0748: 11, L0750: 5, L0740: 4, L0756: 4, L0758: 4, L0769: 3, L0766: 3, L0776: 3, L0779: 3, H0135: 2, L0763: 2, L0770: 2, |
| | Gln-20 to Glu-27, Ser-43 to Ser-49, Ser-89 to Ala-95. | Pro-1 to Ser-9, Glu-48 to Gly-54, Gly-66 to Leu-71, Pro-78 to Glu-84, Ala-108 to Gln-116, Ile-167 to Asp-172, |
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| 20796: 2, L0768: 2, 20774: 2, L0783: 2, 20809: 2, L0438: 2, 20519: 2, H0672: 2, 20751: 2, L0747: 2, 20777: 2, L0755: 2, 20777: 2, L0755: 2, 20757: 2, H0341: 1, 80356: 1, S0360: 1, 80366: 1, H0431: 1, H0024: 1, H0046: 1, H0131: 1, S0150: 1, 80426: 1, L0771: 1, 20466: 1, L0771: 1, 20468: 1, H0660: 1, 80426: 1, L0771: 1, 20773: 1, L0650: 1, 20769: 1, H0660: 1, 2078: 1, L0588: 1, 2078: 1, L058: 1, 2078: 1, L0752: 1, 2079: 1, H0543: 1, | H0423: 1 and H0422: 1. H0695: 124, H0542: 48, H0730: 32, H0688: 27, H0735: 25, H0684: 24, H0728: 23, H0687: |
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| 23, H0744: 19, H0703: | 19, H0580: 18, H0717: | 17, H0685: 15, H0729: | 15, H0722: 15, H0740: | 13, H0733: 11, H0521: | 9, H0713: 8, H0543: 8, | H0494: 7, H0689: 7, | H0716: 6, H0741: 6, | H0696: 6, H0734: 5, | H0739: 4, H0545: 4, | H0699: 4, H0725: 4, | H0686: 3, H0592: 3, | H0587: 3, H0581: 3, | H0743: 3, H0726: 3, | H0690: 3, H0683: 3, | H0732: 3, H0712: 3, | H0742: 2, H0544: 2, | H0708: 2, H0488: 2, | H0724: 2, H0710: 2, | H0709: 2, H0555: 2, | H0171: 1, H0738: 1, | S0282: 1, H0600: 1, | H0586: 1, H0318: 1, | H0617: 1, S0036: 1, | H0561: 1, S0422: 1, | 80053: 1, 80216: 1, | H0723: 1, H0522: 1, | S0146: 1, H0727: 1, | S0260: 1 and S0436: 1. | L0753: 3, H0615: 1 |
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| 110693.1 | H0585: 21, L0742: 12, I 0747: 9 80358: 8. | H0052: 8, S0126: 8, | H0141: 7, H0620: 7, | L0748: 7, H0009: 6, | H0624: 4, S0408: 4, | H0427: 4, H0081: 4, | S0051: 4, H0660: 4, | L0750: 4, S0444: 3, | H0393: 3, H0599: 3, | H0618: 3, L0471: 3, | H0083: 3, H0617: 3, | H0708: 3, H0413: 3, | H0494: 3, H0672: 3, | L0740: 3, L0751: 3, | L0755: 3, H0171: 2, | H0294: 2, S0046: 2, | H0455: 2, H0333: 2, | H0156: 2, H0002: 2, | H0097: 2, H0706: 2, | S0049: 2, H0024: 2, | H0373: 2, H0356: 2, | S0364: 2, S0366: 2, | H0135: 2, H0412: 2, | S0440: 2, L0640: 2, | L0766: 2, L0532: 2, | L0754: 2, L0757: 2, | S0031: 2, L0604: 2, | H0506: 2, H0161: 1, |
| | Gly-1 to Tyr-6, | Lys-10 to Gry-12, Ser-46 to Lys-59. | | • | | | | | | | | | | | | | | | | | | | | | | | | |
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| | 4q21-q25 |
| pu | H0494: 6, H0046: 5, S0028: 5, H0519: 4, H0713: 3, H0547: 3, H0458: 2, H0574: 2, H0013: 2, H0551: 2, H0621: 2, S3014: 2, H0710: 1, H0171: 1, H0716: 1, S0134: 1, H0650: 1, H0656: 1, H0656: 1, H0634: 1, S0282: 1, S0282: 1, S0282: 1, S0358: 1, S0358: 1, S045: 1, S0476: 1, S0476: 1, H0575: 1, H0659: 1, H0575: 1, H0659: 1, H0575: 1, S0045: 1, H0575: 1, H0659: 1, H0575: 1, H0651: 1, H0651: 1, H0651: 1, H0551: |
| ; ; | Pro-13 to Pro-23. |
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| H0596: 1, H0530: 1, H054: 1, H0081: 1, H0050: 1, H0014: 1, H0373: 1, S0003: 1, S0022: 1, L0194: 1, H0213: 1, H0644: 1, H0040: 1, H0634: 1, H0667: 1, H0634: 1, H0651: 1, S0150: 1, H0646: 1, L0475: 1, H0646: 1, L0475: 1, H0520: 1, H0660: 1, H0520: 1, H0690: 1, S0380: 1, H0699: 1, S0380: 1, H0699: 1, S0380: 1, H0699: 1, S0434: 1, S0436: 1, H0543: 1, H0667: 1, S0194: 1, H0542: 1, H0543: 1, S0424: 1 and H0543: 1, S0424: 1 and | L0749: 14, L0439: 8, L0438: 6, L0748: 4, L0747: 4, L0779: 4, L0769: 3, S0442: 2, S0038: 2, L0764: 2, L0662: 2, L0766: 2, |
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| <u> </u> | Val-9 to Gly-18, Pro-21 to Gly-27, Gly-81 to Trp-91, Lys-120 to Gly-126, Ile-166 to Pro-172, Val-185 to Ala-192, |
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| 7 10809. 2 1 0809. 2 | Ser-241 to Lys-248, L0666; 2, H0144; 2, | _ | Gin-287 to Asn-292. L0750: 2, L0756: 2, | H0624: 1, H0170: 1, | H0171: 1, H0556: 1, | \$0402: 1, \$0282: 1, | H0645: 1, L0717: 1, | H0586: 1, L0586: 1, | H0427: 1, S0010: 1, | H0046: 1, H0457: 1, | H0050: 1, L0471: 1, | S0051: 1, T0010: 1, | S6028: 1, H0688: 1, | ` –• | S0036: 1, H0135: 1, | H0494; 1, H0560: 1, | S0438: 1, H0207: 1, | H0633: 1, H0647: 1, | 80142: 1, 80422: 1, | L0803: 1, L0804: 1, | L0776: 1, L0655: 1, | S0148: 1, H0547: 1, | S0126: 1, H0683: 1, | H0670: 1, H0672: 1, | H0539: 1, L0744: 1, | L0757: 1, L0758: 1, | L0759: 1, L0593: 1, | H0543: 1 and H0423: 1. |
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| L0766: 4, L0748: 4, S0037: 2, L0749: 2. | H0571: 1, | H0553: 1, | , S0142: 1, | L0794: 1, | J0804: 1, H0519: 1, | H0659: 1, H0660: 1, | .0754: 1 and H0136: 1. | H0585: 26, H0141: 12, 4q21 | H0623: 6, L0766: 6, | , H0318: 5, | H0556: 4, H0657: 4, | H0457: 4, L0471: 4, | 20776: 4, H0659: 4, | S0360: 3, H0599: 3, | S0003: 3, | H0634: 3, T0067: 3, | , L0598: 3, | L0770: 3, L0764: 3, | H0144: 3, L0751: 3, | L0747: 3, L0757: 3, | 20758: 3, H0445: 3, | H0542: 3, T0002: 2, | S0418: 2, S0376: 2, | S0222: 2, | H0497: 2, H0559: 2, | H0620: 2, H0083: 2, | H0428: 2, H0124: 2, | H0068: 2, H0090: 2, |
| " | S0360: 1, H0571: | S0003: 1, H0553. | H0551: 1, S0142: | S0002: 1, | L0804: 1, | H0659: 1, | L0754: 1 | H0585: 2 | H0623: 6, | H0013: 5, | H0556: 4, | H0457: 4, | L0776: 4, | 80360: 3, | S0010: 3, | H0634: 3, | H0538: 3, I | L0770: 3, | H0144: 3, | L0747: 3, | L0758: 3, | H0542: 3, | S0418: 2, | S0132: 2, S0222: 2, | H0497: 2, | H0620: 2, | H0428: 2, | H0068: 2, |
| 2691 Lys-90 to Arg-96. | | | , | • | | | | | | | | | | | | | | | | | | | | | | | | |
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| H0412: 2, H0494: 2, | H0561: 2, L0769: 2, | .0372: 2, L0775: 2, | .0375: 2, L0655: 2, |)517: 2, L0526: 2, | H0520: 2, H0519: 2, | S0126: 2, S0330: 2, | H0521: 2, S0206: 2, | .0743: 2, L0745: 2, | .0752: 2, L0593: 2, | .0595: 2, S0026: 2, | H0543: 2, H0423: 2, | H0265: 1, H0686: 1, | S0342: 1, T0049: 1, |)134: 1, H0650: 1, | 0116: 1, H0341: 1, | H0661: 1, S0420: 1, | 3356: 1, L0717: 1, | S0278: 1, H0549: 1, | H0550: 1, H0441: 1, | H0442: 1, S0005: 1, | .0623: 1, H0486: 1, | F0114: 1, S0280: 1, | H0575: 1, H0581: 1, | H0052: 1, H0046: 1, | H0123: 1, H0050: 1, | H0012: 1, H0015: 1, | H0239: 1, H0375: 1, | S0022: 1, H0615: 1, | H0030: 1, H0644: 1, |
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| | Pro-11 to Gly-18, Glu-24 to Cys-32, Glu-34 to Met-47, Ala-55 to Glu-60, Ile-75 to Gln-81, Ser-132 to Thr-139, |
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| H0684: 1, H0660: 1, H0539: 1, H0555: 1, L0742: 1, L0786: 1, H0668: 1 and S0424: 1. | | L0809: 7, L0758: 7, S0007: 4, L0662: 4, L0794: 4, L0665: 4, L0439: 4, L0754: 4, H0333: 3, L0769: 3, L0761: 3, L0803: 3, H0395: 2, S0222: 2, H0124: 2, S0036: 2, L0751: 2, L0747: 2, L0485: 2, H0716: 1, H0295: 1, H0402: 1, S0418: 1, S0442: 1, H0619: 1, H0586: 1, L0623: 1, H0586: 1, L0623: 1, H06486: 1, S0280: 1, L0021: 1, H0618: 1, L0021: 1, L0021 |
| | Gly-4 to Gln-11, Val-87 to Asn-97, Gly-168 to Leu-178, Asp-194 to Phe-200, Phe-205 to Arg-210, Gln-292 to Gly-306, Gly-328 to Ser-342, Gly-349 to Asp-358, His-365 to Asp-379. | Gly-5 to Ala-25, Pro-28 to Leu-43, Pro-45 to Glu-57, Pro-64 to Trp-70, Gly-76 to Ala-90, Gly-99 to Gly-106. |
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| H0318: 1, H0052: 1, H0251: 1, H0123: 1, H0050: 1, H0012: 1, S0051: 1, H0179: 1, H0615: 1, T0006: 1, H0087: 1, H0264: 1, L0772: 1, L0667: 1, L0772: 1, L0644: 1, L0772: 1, L0644: 1, L0659: 1, L075: 1, L0659: 1, L075: 1, H0682: 1, H0660: 1, L0603: 1, L0743: 1, L0603: 1, L0743: 1, L0770: 1, L0743: 1, L0770: 1, L0777: 1, | S0424: 1. L0754: 3, L0662: 2, L0766: 2, L0805: 2, S0052: 2, L0747: 2, L0749: 2, L0747: 2, L0758: 2, L0759: 2, L0591: 2, L0599: 2, L0595: 2, S0045: 1, L0021: 1, H0053: 1, H0318: 1, H0150: 1, H0617: 1, H0040: 1, |
| | Pro-8 to Asn-22, Thr-31 to Ser-36. |
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| H0359: 1, L0770: 1, L0521: 1, L0768: 1, | L0659: 1, L0804: 1, L0659: 1, L0809: 1, | L0789: 1, H0648: 1, | H0651: 1, L0779: 1, | L0780: 1 and L0752: 1. | AR052: 27, AR033: | 27, AR039: 25, AR053: | 24, AR055: 19, AR089: | 19, AR096: 19, AR104: | 17, AR060: 14, AR061: | 12 | L0776: 4, L0783: 4, | H0624: 3, H0559: 3, | H0620: 3, H0615: 3, | H0100: 3, L0769: 3, | L0766: 3, L0755: 3, | H0619: 2, H0081: 2, | H0604: 2, L0775: 2, | L0375: 2, L0659: 2, | L0809: 2, H0670: 2, | H0672: 2, H0539: 2, | L0777: 2, L0759: 2, | F0002: 1, H0295: 1, | F0049: 1, H0657: 1, | H0381: 1, H0661: 1, | H0662: 1, S0442: 1, | S0376: 1, S0360: 1, | S0408: 1, H0550: 1, |
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| S0222: 1, H0486: 1, | H0156: 1, H0599: 1, | H0052: 1, H0597: 1, | H0545: 1, H0565: 1, | H0563: 1, H0012: 1, | H0373: 1, H0266: 1, | H0292: 1, H0284: 1, | T0006: 1, H0181: 1, | H0617: 1, H0264: 1, | H0413: 1, H0059: 1, | H0494: 1, H0509: 1, | H0529: 1, L0763: 1, | L0770: 1, L0796: 1, | L0643: 1, L0645: 1, | L0774: 1, L0806: 1, | L0519: 1, L0665: 1, | H0144: 1, L0438: 1, | L0352: 1, H0520: 1, | H0547: 1, S0126: 1, | H0658: 1, S0378: 1, | S0380: 1, H0521: 1, | H0696: 1, H0576: 1, | L0439: 1, L0747: 1, | L0750: 1, L0752: 1, | L0753: 1, L0731: 1 and | H0543: 1. | H0620: 1, H0130: 1 | and H0539: 1. | S0276: 7, H0543: 6, |
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| S0358: 3 H0046: 3 | | | , H0661: 2, S0420: 2, | H0052: 2, H0135: 2, | | L0752: 2, L0758: 2, | H0422: 2, H0657: 1, | H0484: 1, H0483: 1, | H0638: 1, S0360: 1, | S0132: 1, H0645: 1, | H0550: 1, H0391: 1, | T0039: 1, H0250: 1, | S0010: 1, H0009: 1, | H0123: 1, H0081: 1, | S0051: 1, H0428: 1, | H0040: 1, S0038: 1, | S0144: 1, H0547: 1, | H0593: 1, H0683: 1, | H0670: 1, H0518: 1, | H0134: 1, S0037: 1, | S3014: 1, S0027: 1, | S0032: 1, L0744: 1, | L0740: 1, L0746: 1, | L0731: 1, H0445: 1, | L0596: 1, S0011: 1 and | · 🛁 | AR060: 2, AR089: 2, | AR055: 1, AR061: 1, | AR096: 1, AR104: 0, |
| Asp-48 to Asp-55 | Ser-104 to Glu-199, | Pro-202 to Trp-233, | Gly-236 to Ala-247, | Phe-256 to Ser-263, | Glu-273 to Asp-281. | | | | | | | | | | | | | | | | | | | | | | Gly-1 to Met-15, | Met-60 to Gln-67, | Val-76 to Gly-82, |
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| Leu-117 to Arg-123.AR053: 0, AR033: 0, AR039: 0 H0328: 2, H0124: 2, L0766: 2, H0171: 1, L0005: 1, S0360: 1, H0329: 1, H0156: 1, H0615: 1, H0477: 1, S0440: 1, L0598: 1, H0547: 1, S0126: 1, S0168: 1 and H0595: 1. | | L0748: 38, L0747: 30, L0759: 7, S0360: 5, L0664: 5, L0779: 5, H0486: 4, S0010: 4, L0758: 4, S0222: 3, L0455: 3, S0386: 3, L0764: 3, L0771: 3, L0775: 3, L0438: 3, S0028: 3, L0749: 3, H0575: 2, H0251: 2, H0013: 2, S0280: 2, H0624: 2, S0214: 2, H0628: 2, H0622: 2, H0631: 2, H0644: 2, L0646: 2, L0800: 2, |
| Leu-117 to Arg-123. | Met-34 to Gly-50, Asp-69 to Trp-90, Asp-99 to Lys-107, Val-164 to Thr-170. | His-1 to Arg-12. |
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| L0773: 2, L0662: 2, | H0521: 2, L0752: 2, | S0026: 2, H0583: 1, | H0459: 1, S0418: 1, | S0356: 1, H0675: 1, | S0045: 1, H0619: 1, | H0441: 1, T0039: 1, | T0109: 1, H0581: 1, | H0263: 1, H0596: 1, | H0232: 1, H0327: 1, | L0471: 1, H0057: 1, | H0375: 1, H0266: 1, | S0003: 1, H0688: 1, | H0553: 1, H0376: 1, | H0163: 1, H0090: 1, | H0591: 1, H0616: 1, | 80370: 1, \$0382: 1, | H0529: 1, L0770: 1, | _ | L0761: 1, L0772: 1, | _ | _ | L0766: 1, L0606: 1, | L0659: 1, L0809: 1, | L0663: 1, H0144: 1, | L0565: 1, L0352: 1, | S0126: 1, H0682: 1, | H0659: 1, H0670: 1, | H0672: 1, L0602: 1, |
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| H0518: 1, S0146: 1, S3014: 1, L0439: 1, L0745: 1, L0750: 1, L0777: 1, L0755: 1, L0731: 1, H0595: 1, L0596: 1, H0543: 1 and H0352: 1. | | S0358: 11, L0777: 9, H0046: 8, L0439: 6, L0759: 6, L0438: 5, L0766: 4, S0114: 3, L0766: 4, S0114: 3, L0766: 4, S0114: 3, L0748: 3, L0789: 3, L0748: 3, S0196: 3, H0626: 2, H0629: 2, H0629: 2, L0667: 2, L0809: 2, L0665: 2, L0665 |
| | 4 Asn-41 to Lys-46, Pro-73 to Lys-92. | |
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| 00104.14 T.0740, 12 | 74: 14, EU/46: 15, | 62: 12, H0553: 9, | 0663.9 1 0664.8 | (A7. 0 UNGS 0. 9 | 1034/: 8, f10038. 8, | 06: 8, L0500: 7, | L0659: 7, H0486: 6, | 0526: 6. H0659: 6. | 10672: 6, COADE: 6 | 5/2: 0, 50400. 0, | S0434: 6, H0318: 5, | H0428: 5, H0412: 5, | 543. 5 1 0657. 5 | 100001: 0; | ,051/: 5, H0519: 5, | H0170: 4, H0685: 4, | 40657: 4. S0358: 4. | 7 1 1 10001 4 | 10083: 4, H0031: 4, | 10551: 4, S0440: 4, | 0770: 4. S0374: 4. | , , , , , , , , , , , , | \$0328: 4, H0696: 4, | 10445: 4, L0596: 4, | 508: 4. H0542: 4. | H0624 3 H0686: 3 | 704.2 50356.3 | 30024. J. 30250. J. | 354: 3, S0408: 3, | H0581: 3, H0046: 3, | 40510; 3, H0328; 3, | 10644: 3 H0038: 3 | 0.0000000000000000000000000000000000000 | (0067: 3, S0450: 3, | .0598: 3, L0520: 3, | .0646: 3, L0521: 3, | .0768: 3, L0375: 3, |
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| 0493: | 0521: | 0754: | 0588: | 0114: | 0442: | 0717 | 3060: | 0471: | 10687 | 10068 | 0041: | 6050 | 3369: | 0637: | L0775: 2, | .0527: 2, | L0518: 2, | 0520 | 0330: | 0704 | 0751: | 3752: | L0605: 2, | 3595: | 3448; | T0049: 1 | H0650: 1 |)212: | 0664 |
| 3, 17 | 3, H | 3, L | :3, L | 3,5 | : 2, 5 | : 2, L | 2, T | : 2, L | : 2, H | : 2, H | . 2, T | : 2, H | 2, L | 2, L | . 2, L | . 2, L | 2, L | : 2, H | : 2, S | . 2, H | 2, L | . 2, L | 2, L | 2, L | . 2, I | 1, T(| 1, H | . 1, S(| : 1, H |
| 20655: 3, LO493: 3 | S0126: 3, H0521: | .0439: 3, L0754: 3, | .0757: 3, L0588: 3, | H0543: 3, S0114: 2, | 10663 | H0580: 2, L0717: 2, | S0222: 2, T0060: 2, | J0040: 2, L0471: 2, | H0266: 2, H0687: 2, | H0165: 2, H0068: | H0413: 2, T0041: 2, | H0560: 2, H0509: | S0210: 2, L0369: 2, | .0638: 2, L0637: 2, | .0364: 2, | .0776: 2, | .0656: 2, I | .0519: 2, H0520: 2, | H0435: 2, S0330: 2, | H0539: 2, H0704: 2, | H0436: 2, L0751: 2, | .0747: 2, L0752: 2, | .0589: 2, | .0599: 2, L0595: | .0362: 2, L0448: 1, | S0342: 1, | S0134: 1, | .0760: 1, S0212: 1, | H0661: 1, H0664: 1 |
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| | Pro-2 to Leu-8, Phe-12 to Arg-20, Thr-32 to Lys-38. |
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| 9: 3, | 3, | 4: 3, | 5: 3, | 6. 2, | 6: 2, | 5, 2, | 6: 2, | 0; 2, | 2: 2, | 7:2, | 5: 2, | 0:2, | 4: 2, | 1: 2, | 1: 2, | 3: 2, | 9: 2, | 8: 2, | 2, 3, | l: 2, | 9. 2, | 5:2, | 5: 2, | 8: 2, | 1: 1, | 2: 1, | 0: 1, | 5: 1, | 2: 1, |
| 1.0789; 3, | F066 | , L074 | L059 | H055 | , S011 | S0046 | H058 | , S001 | H005 | , H068 | ,1045 | H009 | , H049 | L076 | L038 | L0518: 2, | H051 | , \$032 | S0152: 2, | L075 | L0779: 2, | , L0755: 2, | L0605: 2 | | , H017 | , T000 | H065 | , L000 | S0442 |
| .0775: 3 | .0791: 3, L0665: 3, | 539: 3 | L0745: 3, L0595: 3, | 026: 3, | H0717: 2, S0116: 2, | S0045: 2, S0046: 2, | S0476: 2, H0586: 2, | H0574: 2, S0010: 2, | S0049: 2, H0052: | 10620: 2, H0687: 2, | H0553: 2, L0455: 2, | 30366: 2, H0090: 2, | H0591: 2, H0494: 2, | 30150: 2, L0761: 2, | .0772: 2, L0381: 2, | .0807: 2, | .0666: 2, H0519: | H0648: 2, S0328: 2, | 50330: 2, | .0743: 2, | .0756: 2, | .0753: 2, 1 | 30436: 2, | .0362: 2, | 10170: 1, H0171: | H0265: 1, T0002: 1 | 70049: 1, H0650: | H0662: 1, L0005: 1, | S0356: 1, S0442 |
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| L0790: 1, L0792: 1, L0663: 1, H0144: 1, L0352: 1, H0547: 1, S0126: 1, H0658: 1, H0670: 1, H0696: 1, H0626: 1, S3012: 1, S0390: 1, L0786: 1, H0595: 1, S0434: 1, L0599: 1, H0653: 1, H0542: 1, S0192: 1, | S0424: 1. Ala-15 to Asp-26, AR089: 17, AR039: Phe-108 to Trp-113, 16, AR096: 16, AR053: Glu-167 to Tyr-175. 16, AR052: 13, AR033: 12, AR060: 11, AR055: 8, AR104: 7, AR061: 6 H0415: 1 and H0414: 1. | L0740: 21, L0748: 14, L0731: 10, L0747: 9, L0752: 9, L0757: 7, H0674: 6, L0750: 6, S0358: 5, L0768: 5, L0809: 5, H0648: 5, L0779: 5, H0318: 4, L0766: 4, L0776: 4, |
| | Ala-15 to Asp-26, Phe-108 to Trp-113, Glu-167 to Tyr-175. | |
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| H0402: 3, H0486: 3, | H0617: 3, L0662: 3, | L0775: 3, L0375: 3, | L0754: 3, H0543: 3, | H0170: 2, H0686: 2, | H0125: 2, S0360: 2, | S0222: 2, H0333: 2, | T0060: 2, H0250: 2, | H0156: 2, H0263: 2, | H0123: 2, H0024: 2, | L0483: 2, H0644: 2, | H0090: 2, H0551: 2, | H0412: 2, L0763: 2, | L0772: 2, L0803: 2, | L0774: 2, L0805: 2, | L0659; 2, L0783; 2, | L0543: 2, S0126: 2, | H0435: 2, H0672: 2, | L0751: 2, L0777: 2, | L0758: 2, L0759: 2, | H0444: 2, L0599: 2, | L0604: 2, S0194: 2, | H0423: 2, H0422: 2, | H0352: 2, H0624: 1, | H0295: 1, S0114: 1, | T0049: 1, H0650: 1, | H0657: 1, H0638: 1, | L0005: 1, S0376: 1, | S0410: 1, H0637: 1, | S0045: 1, S0046: 1, |
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| | Pro-1 to Ser-6, Pro-9 to Pro-16, ··· I Pro-34 to Leu-41. | Arg-8 to Gly-17, Gly-29 to Pro-45, Arg-62 to Leu-84, Gln-87 to Leu-96, Glu-103 to Val-114, Gln-141 to Cys-153, Ile-162 to Glu-180, Arg-186 to Lys-211, Asn-219 to Asn- |
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| H0013: 5, H0622: 5, | 10038: 5, H0623: 5 | .0649: 5, L0805: 5, | 10547: 5, L0749: 5, | J0750: 5, S0476: 4, | 3036: | S0422: 4, L0598: 4, | 10529: 4, L0662: 4, | 608 | .0663: 4, H0144: 4 | H0659: 4, H0658: 4, | 10521: 4, S0434: 4, | .0581: 4, H0717: 3, | S0212: 3, S0444: 3, | H0574: 3, H0004: 3, | H0328: 3, H0615: 3 | 10644: 3, H0551: 3 | L0770: 3, | .0768: 3, L0657: 3, | .0665: 3, S0374: 3, | 10670: 3, S0330: 3, | 0731: 3, S0436: 3, | 10265: 2, H0738: 2, | S0116: 2, H0341: 2, | 10638: 2, S0360: 2, | 10580: 2, S0045: 2, | 10393: 2, L0717: 2, | HO549: 2, S0414: 2, | H0485: 2, S0280: 2, | H0156: 2, S0010: 2, |
| 5, H | 5, H(| 5,10 | : 5, L(| 5, 50 | . 4, H | 4,10 | 4,17 | 4,10 | 4, HC | : 4, H(| . 4, SC | 4, H(| 3, S0 | 3, H(| 3, H(| 3, H(| 3, L(| 3,12 | 3, 80 | 3, 50 | 3, 50 | 2, H(| 2, HC | 2, SC | 2, S0 | 2,10 | 2, \$0 | 2, S0 | 2, 80 |
| 10013 | HO038 | 9649 | 10547 | .02/20 | 10497 | 0422: | 10529 | .2775: | .0663: | 10659 | 10521 | .0581: | 0212: | 10574 | 10328 | 10644 | 10494: 3, | .0768: | .0665: | 0.0901 | 0731: | 10265 | 0116: | 10638 | 10580 | [0393] | [0549] | 10485 | 10156 |
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|)426: 4, | 0435: 4, | 742: 4, |)758: 4, | 0556: 3, | 212: 3, | 3, 3, | 0048: 3, | 0271: 3, | 3, 3, | 3, 3, | L0646: 3, | L0775: 3, | .0749: 3, | 3752: 3, | T0002: 2, | 0662: 2, | 3356: 2, | 360: 2, | 0393: 2, | 3592: 2, | 0039: 2, | 0250: 2, | 0575: 2, | 0597: 2, | 0545: 2, | 0179: 2, | 0039: 2, | H0628: 2, | 0124: 2, |
| 42: 4, S(| L0663: 4, H0435: 4 | S0027: 4, L0742: 4, | L0754: 4, L0758: 4, | H0265: 3, H0556: 3, | S0040: 3, S0212: 3, | S0045: 3, H0599: 3, | H0253: 3, T0048: 3, | H0266: 3, H0271: | S0250: 3, H0494: 3, | S0440: 3, H0641: 3, | S0144: 3, L(| 0662: 3, L(| .0809: 3, L | | 10542: 3, T | H0295: 2, H0662: 2, | 10306: 2, S0356: 2, | S0442: 2, S0360: 2, | H0580: 2, H0393: 2, | S0222: 2, H0592: 2, | 10559: 2, T0039: 2, | H0013: 2, H0250: 2, | S0280: 2, H0575: 2, | H0581: 2, H0597: 2, | 10544: 2, H0545: 2, | H0046: 2, H0179: 2, | H0252: 2, H0039: 2, | H0030: 2, H | H0617: 2, H0124: 2, |
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| Ser-36 | Val-37 | Arg-35 | Gln 42 | Ser-44 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thr-353 to Ser-360, S0142: 4, S0426: 4, | Gln-365 to Val-379, | Pro-381 to Arg-390, | Glu-418 to Gln-423, | Leu-438 to Ser-445. | | | | | | | | | | | | | | | | • | | | | | | | | | |
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| H0056: 2, T0041: 2, | F0042: 2, S0210: 2, | H0695: 2, H0529: 2, | .0769: 2, L.0643: 2, | 764: 2, L0766: 2, | J0653: 2, L0658: 2, | HO519: 2, H0690: 2, | 10670: 2, H0539: 2, | 602: 2, L0748: 2, | 745: 2, L0747: 2, | L0759: 2, L0593: 2, | 10665: 2, H0667: 2 | H0543: 2, H0422: 2 | .0600: 2, H0186: 1, | H0713: 1, H0716: 1 | S6024: 1, H0583: 1, | H0657: 1, H0254: 1 | H0661: 1, H0402: 1 | H0638: 1, L0534: 1, | S0408: 1, S0007: 1, | 10208: 1, H0619: 1 | H0351: 1, H0261: 1 | 10549: 1, H0392: 1 | H0586: 1, H0586: 1 | H0333: 1, H0486: 1, | H0635: 1, H0427: 1, | H0156: 1, S0474: 1 | H0309: 1, H0204: 1 | H0546: 1, L0041: 1 | H0009: 1, H0178: 1 |
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| | | Pro-9 to Ala-24, Thr-52 to Gly-61, Thr-64 to Ser-70. | His-11 to Ala-17, H0581: 3, H0615: Pro-29 to Ser-35, L0766: 3, L0777: 3, Asn-59 to Asp-64, H0657: 2, H0486: 2 Lys-67 to Leu-72, H0013: 2, H0641: 2 Gln-101 to Asp-110, L0803: 2, S0011: 2, Pro-157 to Lys-176, H0543: 2, H0423: 2 Gln-181 to Lys-210, H0556: 1, H0341: 1 Gln-213 to Lys-228, S0420: 1, S0356: 1, Pro-253 to Asn-264. H0580: 1, H0586: 1 H0575: 1, S0049: 1 H0016: 1, H0041: 1 H0009: 1, L0471: 1 H0009: 1, H0032: H0672: 1, H0032: H0674: 1, H0033: |
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| H0616: 1, H0551: 1, T0041: 1, S0440: 1, S0422: 1, L0598: 1, H0529: 1, L0570: 1, L0794: 1, L0770: 1, L0776: 1, L0779: 1, L0776: 1, L0655: 1, L0792: 1, L0663: 1, L0665: 1, S0374: 1, H0650: 1, H0696: 1, S0380: 1, H0696: 1, S0380: 1, H0696: 1, L0742: 1, L0439: 1, L0742: 1, L0590: 1, L0754: 1, L0590: 1, L0599: 1, H0542: 1, L0754: 1 and L0600: 1. | L0748: 4, L0777: 4, L0756: 2, H0263: 1, H0046: 1, H0023: 1, H0188: 1, L0761: 1, L0662: 1, L0526: 1, L0790: 1, L0747: 1 and | H0547: 10, H0542: 10, 19p13.3 H0266: 9, L0794: 7, p13.2 S0358: 6, H0559: 6, L0803: 6, L0666: 6, L0601: 6, H0013: 5, |
| TH NHUNDUNDE THE | Asn-19 to Ile-26, Val-44 to Lys-54, Arg-70 to Val-83, Arg-95 to Thr-100, Arg-136 to Arg-141.L | Ser-7 to Trp-12, H0547: 10, H0542 Pro-28 to Gly-58, H0266: 9, L0794: 7, Lys-212 to Cys-218, S0358: 6, H0559: 6, Glu-229 to Gly-235. L0803: 6, L0666: 6, L0601: 6, H0013: 5, |
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| [145981, | 147141, | 147670, | 147670, | 147670, | 151440, | 164953, | 188070, | 231670, | 600276, | 600957, | 601238, | 601843, | 601846, | 602216, | 602477 | | | | | - | | | | | - | | | |
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| H0696: 2, H0555: 2, | 10436: 2, S0027: 2, | .0439: 2, L0779: 2, | 30434: 2, L0596: 2, | H0136: 2, H0543: 2, | 10423: 2, L0600: 2, | 171: 1 | 583: 1 | H0650: 1, H0656: 1, | 212: 1, | S0282: 1, H0484: 1, | 662: 1, | 125: 1, | 120: 1, | 176: 1, | 437: 1, | H0549: 1, | 586: 1, | T0048: 1, | 052: 1, | 545: 1, | 566: 1, | 050: 1, | T0003: 1, | S0388: 1, | 375: 1, | L0483: 1, | H0553: 1, | 628: 1, | 506: 1, |
| : 2, H0 | : 2, S0 | 2, LO | 2, 1.0 | : 2, H0 | 2,10 | H0171: | H0685: 1, H0583: | : 1, HO | 1, S02 | 1, HO | H0255: 1, H0662: 1 | H0638: 1, H0125: | S0418: 1, S0420: | 1, S03 | 1, HO | 1, HO | H0370: 1, L0586: | 1, TO | H0196: 1, H0052: | H0204: 1, H0545: | H0009: 1, H0566: | H0081: 1, H0050: | 1, TO | 1, 50 | 70010: 1, H0375: | 1, 10 | 1, H0 | 1, HO | 1, H |
| 9690H | H0436 | L0439 | S0434 | H0136 | H0423 | H0624 | H0685 | H0650 | S0116: | S0282: | H0255 | H0638 | S0418: | S0356: 1, S0376: 1 | S0132: | H0261: 1, | H0370 | H0069: 1, | H0196 | H0204 | H0009 | H0081 | H0012: 1, | H0373: 1, | <u>ròo10:</u> | H0687: 1, | H0031: 1, | H0644: 1, H0628: | H0617: 1, H0606: 1 |
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| H0687: 1, H H0028: 1, S H0688: 1, H H0653: 1, H H0111: 1, H H0165: 1, I H0647: 1, H H0647: 1, I H0647: 1, I H0647: 1, I L0761: 1, I L0773: 1, I L0773: 1, I L0773: 1, I L0773: 1, I L0773: 1, I L0773: 1, I L0768: 1, I L0654: 1, I L0655: 1, I | ની ની ની ૨ [,] ૨, ૨, ૨, | | —————————————————————————————————————— | · – |
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| S0037: 1, S3014: 1, L0750: 1, L0780: 1, S0260: 1, L0591: 1, S0011: 1, S0026: 1, H0653: 1, H0667: 1, H0136: 1, H0216: 1, S0192: 1, S0276: 1 and H0677: 1. | ÷. | H0328: 2 | L0758: 9, L0770: 7, | H0620: 6, L0731: 6, | L0747: 5, L0777: 5, | H0265: 4, L0771: 4, | L0748: 4, L0759: 4, | L0769: 3, L0662: 3, | L0774: 3, L0526: 3, | L0439: 3, L0751: 3, | L0750: 3, S0358: 2, | H0424: 2, S0144: 2, | L0520: 2, L0764: 2, | L0364: 2, L0776: 2, | L0809: 2, L0664: 2, | L0754: 2, S0436: 2, | L0588: 2, L0601: 2, | H0556: 1, H0685: 1, | S0040: 1, S6024: 1, | H0341: 1, H0484: 1, | H0661: 1, H0306: 1, |
| | Pro-13 to Ala-20, Pro-53 to Ser-61. | | Ala-4 to Ala-11. | | | | | | | | | | | | | | | | | | |
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| 8: 1, S04 | S0354: 1, S0278: 1, | 0: 1, HC | 9: 1, HC | 5: 1, HÇ | 4: 1, HO | 9: 1, HC | 2: 1, 1.0 | <u></u> | 8: 1, TO | | 1: 1, HO | H0264: 1, H0494: | H0131: 1, H0538: | 2: 1, LO | 6: 1, LO | L0378: 1, L0653: 1, | 5: 1, LO | 9: 1, LO | 9: 1, LOr | 5: 1, HO | 4: 1, HO | H0593: 1, S0126: | H0435: 1, H0670: | 2: 1, HO | H0710: 1, S0406: 1 | .0611: 1, S0037: 1 | 4: 1, SOC | ~~ | t: 1. |
| S0415 | S035 | H055 | 900H | H057 | S047 | H000 | H024 | H001 | H0428: | H0644: | H0551: 1 | H026 | H013 | 1.077 | T076 | L0378 | L065 | L065 | L0789 | T066 | S0377 | H059 | H043 | H067. | H071 | L0611 | S3014: 1 | S0032: | S0434: |
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| A = 63 to A ra 77 | ્ટૂર | 11e-222 to Tvr-228. | 1,vs-284 to Glu-293, | Asn-324 to Ser-329, | Pro-375 to Lys-388. | • | | | | | | | | | | | | | | | | | | | | | | | |
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| H0051: 2, T0010: 2, | H0510: 2, T0006: 2, | H0617: 2, H0674: 2, | H0413: 2, S0344: 2, | .0598: 2, L0369: 2, | .0637: 2, L0648: 2, | .0626: 2, L0363: 2, | .0768: 2, L0775: 2, | .0651: 2, L0378: 2, | .0383: 2, S0122: 2, | H0690: 2, H0670: 2, | H0648: 2, S0380: 2, | H0626: 2, L0744: 2, | JO777: 2, L0752: 2, | .0757: 2, L0758: 2, | .0596: 2, L0592: 2, | .0593: 2, H0665: 2, | H0543: 2, S0424: 2 | H0170: 1, H0686: 1 | H0685: 1, S0342: 1, | S0134: 1, H0657: | H0341: 1, H0663: 1, | H0306: 1, S0356: 1, | S0442: 1, S0354: 1, | S0444: 1, S0408: 1, | S0468: 1, S0045: | H0411: 1, S0278: | H0370: 1, | H0587: 1, L0622: 1, | H0486: 1, T0039: |
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| | Asn-1 to Pro-7, Glu-33 to Ser-40, Glu-33 to Ser-40, Pro-54 to Thr-63, Leu-82 to Arg-106, Gly-109 to Asn-119, H0529: 2, L0005: Gly-109 to Asn-119, H0529: 2, L0005: Glu-145 to Val-150, S0356: 1, H0676: Lys-161 to Gln-168, H0411: 1, S0222: Arg-170 to Phe-175, S6014: 1, H0587: Thr-177 to Tyr-184, H0497: 1, H0013: H0575: 1, H0327: L0471: 1, H0538: H0660: 1, H0538: H0660: 1, H0538: | Pro-25 to Glu-54, Ser-66 to Glu-71, Gly-86 to Trp-92, Arg-104 to Asn-109 |
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| H0012: 1, S0051: 1, | H0083: 1, H0039: 1, | L0794: 1, L0809: 1. | Leu-290 to Tyr-297. L0748: 1 and S0026: 1. | H0156: 2, H0624: 1, | H0171: 1, H0686: 1, | H0656: 1, H0574: 1, | H0486: 1, S0316: 1, | H0622: 1, H0038: 1, | S0150: 1, H0520: 1, | H0547: 1, H0658: 1, | H0666: 1, H0521: 1 and | S0028: 1. | AR104: 2, AR061: 1, | AR089: 1, AR033: 0, | AR053: 0, AR039: 0, | AR055: 0, AR052: 0 | L0794: 2, L0803: 2, | L0655: 2, L0665: 2, | H0684: 2, L0754: 2, | L0747: 2, H0686: 1, | L0470: 1, H0662: 1, | H0125: 1, S0360: 1, | L0021: 1, H0052: 1, | H0085: 1, H0597: 1, | H0009: 1, S0362: 1, | H0644: 1, H0673: 1, | L0060: 1, H0560: 1, |
| Asn-133 to Asn- | 138, Thr. 153 to Ser. 160 | Asn-269 to Glu-277. L0794: 1, L0809: 1 | Leu-290 to Tyr-297. | Arg-1 to Arg-8, | Gly-30 to Gln-40, | Phe-50 to Asp-58, | Leu-97 to Ser-112. | | | | | | Pro-89 to Leu-101. | | | | | - | | | | | | | | | |
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| H0592: 2, H0574: 2, | H0575: 2, H0051: 2, | 30022: 2, H0615: 2, | H0032: 2, S0438: 2, | 30440: 2, L0598: 2, | 2, L0774: 2, | 2, L0659: 2, | .0518: 2, L0663: 2, | H0726: 2, S0126: 2, | H0539: 2, H0696: 2, | 10555: 2, L0740: 2, | .0747: 2, L0753: 2, | L0593: 2, H0686: 1, | 1, H0484: 1, | H0671: 1, H0662: 1, | S0356: 1, S0442: 1, | S0354: 1, S0444: 1, | S0476: 1, H0645: 1, | 1, H0441: 1, | 10586: 1, H0587: 1, | H0333: 1, H0632: 1, | H0013: 1, S0280: 1, | 1, H0599: 1, | 10590: 1, H0309: 1, | .0040: 1, H0544: 1, | H0545: 1, H0019: 1, | S0051: 1, H0275: 1, | H0375: 1, S6028: 1, | S0250: 1, H0328: 1, | H0428: 1, H0031: 1, |
| H0592 | H0575 | S0022: | H0032 | S0440: | L0769: 2, | L0776: 2, | L0518: | H0726: | H0539: | H0555: | 1.0747: | 1.0593: | \$0212: | H0671: | 50356: | S0354: | S0476: | S0222: 1, | H0586: | H0333: | H0013: | L0021: 1, | H0590: | 1.0040: | H0545: | 80051: | H0375: | S0250: | H0428: |
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| додину д | Asp-41 to Gly-56. |
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| H0618: 3, H0253: 3, | H0545: 3, L0662: 3, | H0689: 3, L0748: 3, | L0758: 3, | L0785: 2, H0692: 2, | H0662: 2, H0550: 2, | S0049: 2, L0770: 2, | L0764: 2, L0659: 2, | H0670: 2, L0779: 2, | L0757: 2, L0759: 2, | H0225: 1, | H0650: 1, | Arg-347 to Thr-356, H0656: 1, L0426: 1, | S0442: 1 | Glu-396 to Pro-414. H0489: 1, H0580: 1 | S0132: | H0549: | H0587: 1, H0333: | H0427: | .0021: 1, H0599: | H0581: | H0052: | L0157: | H0566: 1, H0123: | F0010: 1, H0408: | H0266: | H0271: 1, H0687: | H0163: 1, H0087: | H0494: 1, H0359: | S0344: 1, L0371: |
| 8: 3,] | 5:3,1 | 9:3,1 | L0777: 3, I | 5: 2, I | 2: 2,] | 9: 2, I | 4: 2, I | 0:2,1 | 7:2,1 | 4: 2, F | 8: 1, F | 6: 1, 1 | 2: 1, S | 9: 1, I | 5: 1, S | | 7: 1, I | 9: 1, I | 1: 1, F | 4: 1, I | H0421: 1, I | H0231: 1, I | 6: 1, I | D: 1, F | 5: 1, I | 1: 1, I | 3: 1, I | 4: 1, I | # 1, L |
| H061 | | H068 | | 1078 | 990H | S004 | | | L075 | S0434: 2, | S0218: | H065 | Lys-373 to Arg-391, S0212: 1, | H048 | S0046: 1, | S0476: 1 | H058 | H0559: 1, | 1002 | H0274: 1, | H042 | H023 | H056 | T001 | H0355: 1, | H027 | H016 | H049 | S034 |
| 93, | Ala-108 to Ser-139, | 151, | Asp-154 to Ala-164, | -189, | 203, | .235, | Thr-255 to Glu-261, | Pro-271 to Pro-276, | Pro-289 to Asn-310, | Pro-318 to Tyr-329, | Arg-334 to Arg-345, | -356, | -391, | 414. | | • | • | | | | | | | | | | | | |
| Ala-88 to Cys-93, | o Ser | Ser-145 to Ser-151, | to Ala | Pro-168 to Thr-189, | Pro-196 to Ser-203, | Pro-229 to Ala-235, | o Glu | o Pro- | o Asn | o Tyr. | o Arg | o Thr | o Arg | o Pro | | | | | • | | | | | | | | | | |
| -88 to | -108 t | 145 to | -154 | 168 t | .196 t | .229 t | -255 t | 271 t | 289 t | 318 t | -334 t | -347 t | -373 t | -396 t | | | | | | | | | | | | | | | : |
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| | Asp-7 to Ala-15, Pro-34 to Ile-60, Gln-110 to Asn-117. |
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| | Gly-7 to Leu-15, Pro-17 to His-29. | Thr-15 to Trp-23, Ala-44 to Gln-51, Lys-62 to Arg-70, Asp-102 to Lys-114 Val-116 to Ala-148, Phe-151 to Glu-163 |
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| H0051: 1, H0099: 1, H0594: 1, H0188: 1, S0214: 1, H0604: 1, H0417: 1, H0181: 1, H0673: 1, H0551: 1, H0412: 1, H0413: 1, | S0150: 1, S0426: 1, H0529: 1, L0373: 1, L0374: 1, L0764: 1, L0375: 1, L0554: 1, L0657: 1, L0659: 1, | L3623: 1, L0306: 1, L0665: 1, H0702: 1, H0519: 1, H0683: 1, S0328: 1, S0330: 1, H0539: 1, S0378: 1, H0522: 1, S0037: 1, | S0028: 1, S0206: 1, L0754: 1, L0750: 1, H0445: 1, H0595: 1, L0591: 1, L0361: 1, L0601: 1, S0192: 1, H0542: 1, H0423: 1 and S0456: 1 | L0439: 5, L0777: 4, H0244: 2, S0010: 2, S0386: 2, L0764: 2, L0776: 2, L0809: 2, |
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| <u> </u> | | | | Glu-1 to Asn-6, Glu-14 to Leu-19, Pro-22 to Ile-30, Ser-32 to Asp-40, |
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| H0519: 2, L0756: 2, L0780: 2, H0369: 1, S0222: 1, S0346: 1, H0050: 1, H0428: 1, L0194: 1, L0455: 1, H0494: 1, L0769: 1, L0806: 1, L0807: 1, L0664: 1, H0520: 1, L0747: 1, L0779: 1, L0759: 1, S0031: 1 and L0592: 1, | L0764: 3, S0360: 2, H0331: 2, H0575: 2, L0769: 2, H0670: 2, L0747: 2, L0777: 2, L0601: 2, S0358: 1, H0455: 1, H0492: 1, L0621: 1, L0763: 1, L0662: 1, L0803: 1, L0774: 1, L0775: 1, L0809: 1, H0683: 1, H0522: 1, L0743: 1, | H0424: 5, L0766: 3, S0222: 2, S0214: 2, S0422: 2, S0126: 2, S0330: 2, L0759: 2, L0362: 2, L0361: 2, H0653: 2, H0220: 1, |
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| Leu-162 to Pro-182, H0449: 1, S0376: | Arg-187 to Met-192, S0045: 1, H0351: 1 | Ser-199 to Asp-219, H0587: 1, H0497: | Pro-224 to Pro-253. S0010: 1, L0471: | Ĭ | H | H | Ē | Ē | <u> </u> | <u>급</u> | _ <u>_</u> _ | <u> </u> | H | <u> </u> | S | <u> </u> | <u> </u> | | S | His-3 to Phe-9, | Asn-176 to Thr-184, AR096: | Glu-217 to Lys-225, AR089: | Lys-263 to Asp-268. AR104: | <u>▼</u> | | | <u>i4</u> | S |
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| .0527: 3, L0596: 3, | H0170: 2, H0265: 2, | S0114: 2, S0218: 2, | H0266: 2, H0615: 2, | 10056: 2, H0560: 2, | 10561: 2, L0803: 2, | .0782: 2, H0547: 2, | H0134: 2, H0436: 2, | .0756: 2, H0445: 2, | .0362: 2, H0543: 2, | 650: 1, | 208: 1, | S0046: 1, S0476: 1, |)437: 1 | T0114: 1, | T0048: 1, | L0109: 1, | L0471: 1, | H0083: 1, | H0622: 1 | H0031: 1 | H0551: 1 | H0623: 1 | H0132: 1 | L0667: 1, | L0804: 1, | 606: 1, | L0659: 1, | L0518: 1, | .0791: 1, |
| 7: 3, 1.0 |): 2, H(| k 2, S0 | 5: 2, H(| 5: 2, H(| 1: 2, LC | 2: 2, HC | 4: 2, H(| 5: 2, HC | 2; 2, HC | .0002: 1, H0650: | S0418: 1, H0208: | i. 1, S0 | 9: 1, H(|): 1, TC | 3: 1, TC | 3: 1, LC |); 1, LC | | | t: 1, HC | l: 1, HC | 3: 1, HC | | • | • | | | - | \Box |
| L0527 | H017 | S011 ² | H026 | H005 | H056 | L0782 | H013 | L0756 | L0362 | 10007 | S0418 | S0046 | H0619 | H0550: 1, | H0013: 1, | H0318: 1, | H0050: 1, | S0051: 1, | H0328: 1, | H0604: 1, | H0591: 1,] | H0268:] | H0100: 1, | L0763: 1 | L0388: 1 | L0776: | L0657: 1, | L0542: 1 | L0809: |
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| 0703: 1 1 0793: 1 | H0519: 1, H0682: 1, | T0648: 1, S0330: 1, | S0152: 1, S0406: 1, | L0750: 1, L0779: 1, | L0757: 1, L0759: 1, | L0480: 1, H0542: 1 and | H0506: 1. | H0341: 1, S0222: 1, | H0156: 1, H0052: 1, | H0031: 1, L0766: 1, | H0658: 1, H0670: 1 and | L0612: 1. | H0415: 2 and H0486: | | | L0755: 4, H0638: 2, | S0342: 1, H0101: 1, | H0457: 1, H0051: 1, | L0768: 1, L0803: 1, | L0650: 1, L0806: 1, | L0518; 1, H0689; 1, | H0648: 1, L0756: 1 and | L0759: 1. | | | | | | H0685: 2 |
| - | 1 14 | <u> </u> | <u> </u> | | | | | | Val-31 to Gly-40, | | | | Thr-24 to Leu-29. | | | Arg-11 to Trp-20. | | | | | | | | Thr-10 to Arg-16, | Arg-21 to Ser-31, | Asn-97 to Arg-102, | lle-170 to Ser-175, | Thr-207 to Gly-213. | |
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| Gln-4 to Ala-17, | Ala-56 to Gln-61, | Cys-166 to Ala-182. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | Pro-1 to Gly-10, Pro-20 to Gly-34, Pro-36 to Gly-45, Ala-51 to Pro-65, Val-78 to Arg-83, Gln-89 to Gly-98, Lys-114 to Val-119, Arg-158 to Ala-164, Thr-306 to Lys-313. |
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| H0721: 1. | L0766: 3, H0457: 2, H0706: 1, H0015: 1, H0373: 1, H0266: 1, H0553: 1, H0551: 1, H0509: 1, L0761: 1, L0665: 1, H0144: 1, | AR089: 1, AR096: 1, AR061: 1, AR060: 1, AR052: 0, AR039: 0, AR104: 0 L0508: 9, H0620: 7, L0774: 6, L0509: 6, S0408: 5, L0750: 5, L0601: 5, L0515: 4, L0512: 4, H0594: 3, L0512: 4, H0594: 3, L0513: 3, H0670: 3, L0511: 3, H0670: 3, L0755: 3, H0656: 2, H0686: 2, S0358: 2, H0686: 2, S0358: 2, H0494: 2, H0617: 2, H0494: 2, L0505: 2, | L0502: 2, L0769: 2, L0803: 2, L0809: 2, L0528: 2, L0663: 2, L0752: 2, H0657: 1, |
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| 10023: 1, 30-20: 1, 100242: 1, 100242: 1, 100242: 1, 10026: 1, 10026: 1, 10026: 1, 10086: 1, 10086: 1, 10086: 1, 10086: 1, 10086: 1, 100806: 1, 100806: 1, 100809: 1, | L0794: 4, S0002: 2, L0803: 2, H0445: 2, H0250: 1, H0412: 1, S0344: 1, L0761: 1, L0809: 1, H0435: 1 and |
| | Pro-39 to Arg-45, Arg-52 to Ile-60, Glu-87 to Cys-96, Thr-108 to Ser-114, Thr-121 to Glu-128, |
| | 2751 |
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| L0747: 1. | | | | - | _ | • | H0253: 1 and L0767: | 1. | L0766: 7, L0769: 6, | S0418: 4, L0747: 4, | S0424: 3, H0341: 2, | S0278: 2, L0471: 2, | H0083: 2, H0538: 2, | L0770: 2, L0771: 2, | L0775: 2, L0809: 2, | H0520: 2, L0744: 2, | L0754: 2, L0777: 2, | L0759: 2, L0597: 2, | S0026: 2, H0667: 2, | H0171: 1, H0686: 1, | S0212: 1, H0125: 1, | S0420: 1, S0358: 1, | S0376: 1, S0360: 1, | S0046: 1, H0393: 1, | H0333: 1, H0575: 1, | H0581: 1, H0309: 1, | H0046: 1, H0567: 1, | H0188: 1, H0428: 1, | H0553: 1, H0135: 1, |
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| T0041: 1, L0763: 1, L0764: 1, L0804: 1, L0806: 1, L0855: 1, L0382: 1, H0144: 1, H0435: 1, H0660: 1, L0731: 1, and H0543: 1. | L0747: 4, 10328: 2, 10774: 2, 10659: 2, 10759: 2, 10657: 1, 10657: 1, 10067: 1, 10156: 1, 10163: 1, 10163: 1, 10163: 1, 10770: 1, |
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| <u> EDDUDUHUEERHH</u> | H0547: 5, L0766: 3, F; H0551: 2, I; H0435: 2, I; L0754: 2, I; L0596: 2, F; H0341: 1, S; S0360: 1, S; H0013: 1, I; H0013: 1, I; H0616: 1, I; H0560: 1, I; L0763: 1, I; L0763: 1, I; L0763: 1, I; |
| | Thr-69 to Phe-77, Asp-80 to Thr-85. |
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| L0768: 1, L0775: 1, L0806: 1, L0776: 1, L0659: 1, L0783: 1, L0663: 1, L0664: 1, H0658: 1, H0670: 1, S0380: 1, H0670: 1, H0134: 1, S0392: 1, H0345: 1, L0745: 1, L0756: 1, L0777: 1, L0780: 1, L0731: 1 and | L077: 9, H0622: 3, L077: 9, H0622: 3, L077: 3, L0747: 3, L0752: 3, H0657: 2, L0666: 2, L0748: 2, L0590: 2, H0050: 1, H0188: 1, H0687: 1, H0678: 1, H0039: 1, H0674: 1, S0036: 1, L0520: 1, L0769: 1, L0765: 1, L0773: 1, L0803: 1, L0804: 1, L0775: 1, L0651: 1, L0775: 1, L0651: 1, L0775: 1, L0659: 1, L0775: 1, L0659: 1, |
| | Ser-3 to Gln-9, Thr-25 to Lys-40. |
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| | 2 - 247 |
| | 580 |
| | 1022663 |
| | HSKJP93 |

| H0670: 1, H0660: 1, S0406: 1, S3014: 1, L0756: 1, L0758: 1, L0759: 1, L0595: 1, S0011: 1 and H0712: 1. | H0695: 414, H0580: 44, L0777: 6, L0731: 6, H0052: 5, L0766: 5, L0747: 5, H0617: 4, H0083: 3, H0181: 3, H0088: 3, L0637: 3, L0779: 3, L0758: 3, H0484: 2, H0599: 2, L0779: 2, L0778: 2, L0778: 2, L0778: 2, L0778: 2, L0778: 2, L0778: 2, L0439: 2, L0518: 2, L0439: 2, L0518: 2, L0596: 2, L0588: 2, L0599: 2, L0601: 2, H0265: 1, H0556: 1, H0294: 1, H0257: 1, S0420: 1, S0444: 1, S0360: 1, S0444: 1, S0360: 1, L0623: 1, H013: 1, S0280: 1, H0196: 1, L0621: 1, S0010: 1, L0621: 1, H0046: 1, |
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| H0670: 1, H0660: S0406: 1, S3014: L0756: 1, L0758: L0759: 1, L0595: S0011: 1 and H07 | Asn-58 to Thr-64, H0695: 414, H0586 Gly-12 to Ser-78, H0052: 5, L0766: 5, Thr-185 to Leu-200. L0747: 5, H0617: 4, H0083: 3, H0181: 3, H0083: 3, L0779: 3, L0779: 3, L0779: 3, L0779: 3, L0779: 2, L0779: 1, H0294: 1, H0294: 1, H0294: 1, H0208: 1, H0013: 1, L0623: 1, H0013: 1, L0623: 1, H0013: 1, L0021: 1, S0010: 1, H0194: 1, H0046: 1 |
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| | 14924.1 |
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| | Thr-11 to Arg-16, Asn-78 to Asp-84. If I |
| . * | 2757 |
| | 140 - 430 |
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| | HSEBD72 |

| 731: 4, | 662: 3, | 597: 3, | 615: 3, | 428: 3, | 122: 3, | 769: 3, | 670: 3, | 012: 3, | 116: 2, | 420: 2, | 1333: 2, | 050: 2, | 383: 2, | 0124: 2, | 0561: 2, | 371: 2, |)662: 2, |)528: 2, | 0684: 2, | 0659: 2, | 0521: 2, | 0748: 2, | 0745: 2, | 0780: 2, | 0445: 2, | 10136: 2, | 10422: 2, | 0114: 1, | 0110: 1, |
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| H0484: 1, H0483: 1, | H0254: 1, H0661: 1, | H0663: 1, H0402: 1, | S0356: 1, S0354: 1, | 50358: 1, S0376: 1, | H0722: 1, S0468: 1, | S0007: 1, S0045: 1, | S0278: 1, S0222: 1, | H0370: 1, H0613: 1, | H0600: 1, T0039: 1, | F0040: 1, T0112: 1, | H0013: 1, H0253: 1, | H0318: 1, H0235: 1, | H0327: 1, H0530: 1, | H0081: 1, L0471: 1, | H0197: 1, H0246: 1, | S0050: 1, H0373: 1, | H0275: 1, H0083: 1, | H0266: 1, T0006: 1, | H0033: 1, H0604: 1, | H0553: 1, H0617: 1, | H0376: 1, S0036: 1, | H0135: 1, H0090: 1, | H0038: 1, H0634: 1, | H0087: 1, H0059: 1, | H0100: 1, H0494: 1, | S0464: 1, S0142: 1, | S0210: 1, L0762: 1, | L0761: 1, L0764: 1, | _0771: 1, L0773: 1, |
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| | 190100, 200150, 229300, 600429, 600974, 600998, |
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| | 9q13-q21 |
| 0521: 1, L0626: 1, 0767: 1, L0649: 1, 0774: 1, L0375: 1, 0806: 1, L0807: 1, 0517: 1, L0529: 1, 0665: 1, H0520: 1, 80126: 1, H0690: 1, H0709: 1, S0152: 1, 80044: 1, S0404: 1, H0555: 1, S0027: 1, H0444: 1, L0596: 1, L0605: 1, S0276: 1, H0542: 1, H0543: 1 and H0542: 1, H0543: 1 and | AR096: 1, AR104: 1, AR052: 0, AR060: 0, AR089: 0, AR039: 0, AR061: 0, AR055: 0, AR033: 0 L0740: 18, H0521: 15, S0003: 14, L0777: 13, L0754: 12, L0756: 12, H0710: 11, L0747: 10, L0766: 9, L0438: 9, L0750: 7, L0752: 7, H0622: 6, H0522: 6, L0439: 6, L0757: 6, H0156: 5, L0775: 5, S0136: 5, L0731: 5, |
| H H H H H V H V H V H V H | Trp-1 to Ser-8, His-11 to Asn-16, Gln-19 to Pro-25, Gly-38 to Gly-44, Leu-54 to Arg-62, Ser-70 to Asp-78, Gln-83 to Ser-88, Thr-99 to Asn-105, Ser-123 to Val-135, Pro-143 to Arg-169, His-194 to Tyr-206. |
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| S0026: 5, H0661: 4, | 10638: 4, H0581: 4, | H0052: 4, H0032: 4, | .0598: 4, L0770: 4, | .0649: 4, H0144: 4, | H0547: 4, H0659: 4, | S0360: 3, L0471: 3, | S6028: 3, S0214: 3, | ,0483: 3, H0553: 3, | H0038: 3, L0769: 3, | .0764: 3, L0774: 3, | .0659: 3, L0666: 3, | H0436: 3, L0744: 3, | .0599: 3, S0196: 3, | H0713: 2, S0116: 2, | S0408: 2, H0632: 2, | H0013: 2, S0474: 2, | J0163: 2, T0010: 2, | 0510: 2, H0375: 2, | H0271: 2, H0615: 2, | 0617: 2, S0036: 2, | H0090: 2, H0616: 2, | F0041: 2, H0494: 2, | 30438: 2, S0344: 2, |)662: 2, L0768: 2, | .0776: 2, L0665: 2, | H0723: 2, H0520: 2, | H0519: 2, S0328: 2, | S0330: 2, S0028: 2, | .0748: 2, L0779: 2, |
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| .0753; 2, L0758; 2, | .0597: 2, L0592: 2, | 0485: 2, H0543: 2, | 22: 2, H0677: 2, | H0624: 1, H0171: 1, | 56: 1, S0040: 1, | 16: 1, H0657: 1, | H0669: 1, S0420: 1, | S0442: 1, S0358: 1, | 44: 1, H0580: 1, | H0208: 1, S0045: 1, | 45: 1, L0717: 1, | H0351: 1, H0549: 1, | 50: 1, S0222: 1, | H0431: 1, H0614: 1, | H0455: 1, H0587: 1, | 40: 1, T0060: 1, | H0427: 1, S0280: 1, | '06: 1, H0421: 1, | S0049: 1, H0544: 1, | H0545: 1, H0150: 1, | H0569: 1, H0050: 1, | H0373: 1, N0007: 1, | H0201: 1, S0051: 1, | 50318; 1, 50334: 1, | 587: 1, S0312: 1, | H0428: 1, T0006: 1, | H0031: 1, H0644: 1, | H0212: 1, S0364: 1, | .0455: 1, H0708: 1, |
| 2,012 | L059 | L048 | H042 | H062 | H055 | H071 | 990H | 8044 | 8044 | H020 | 90H | H03; | H05; | H04 | H04 | T00 | H04 | H07 | 700S | H05 | H05 | H03 | H02 | 803 | 90H | HOH |)OH | HOZ | 40.1 |
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| 10040: 1 | , H0379: 1 | 10488: 1 | 0004: 1, | 0641: 1 | 0144: 1 | 0210: 1, | 0002: 1, | NKWN | .0763: 1, | L0637: 1, | L0630: 1, | 1, L0646: 1, | L0773: 1, | L0803: 1, | L0806: 1, | 0661: 1, | L0526: 1, | 0544: 1, | 0148: 1, | L0352: 1, | S0126: 1, | H0670: 1 | 10539: 1 | H0696: 1, | 0555: 1, | 0743: 1, | L0745: 1, | 0445: 1, | 394: 1, |
| | .0067: 1, H | H0264: 1, H0488: | 69: 1, T | 38: 1, H | H0646: 1, S0144: 1, | 538: 1, S | 22: 1, S | S0426: 1, UNKWN: 1, | H0529: 1, L | .0371: 1, L | .0761: 1, L | .0372: 1, L | • | .0364: 1, L | .0651: 1, L | .0655: 1, L | • | • | • | • | - | H0435: 1, H | H0648: 1, H0539: | .0602: 1, H | 30044: 1, H0555: | H0478: 1, L0743: 1 | .0751:1,L | .0755: 1, H0445: 1 | S0308: 1, S0394: 1, |
|)OH | TO TO | HO. | <u>S</u> | 200 | HOH | HO | <u>S</u> 04 | S04 | HOH | <u> </u> | 5 | <u> </u> | <u>1</u> 02 | <u> </u> | 20 | 200 | 106 | <u>801</u> | 200 | 803 | HO | HQ | HOH | <u>8</u> | <u>800</u> | HQ HQ | <u>8</u> | <u>1</u> | S03 |
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| | 180105, 190900, 246900 |
| | 7q32 |
| L0480: 1, L0362: 1, S0106: 1, S0192: 1, S0242: 1, H0542: 1, H0423: 1, S0424: 1 and S0446: 1. | H0013: 10, H0644: 6, H0144: 6, H0615: 5, L0748: 4, L0777: 4, H0393: 3, T0114: 3, H0012: 3, H0024: 3, H0529: 3, L0438: 3, H0547: 3, L0439: 3, H0647: 2, H0170: 2, H0341: 2, L0005: 2, L0471: 2, H0603: 2, L0471: 2, H0631: 2, H038: 2, L0750: 2, L0592: 2, H0171: 1, S0212: 1, S0418: 1, S0212: 1, S0418: 1, H0427: 1, H0619: 1, H0427: 1, H0619: 1, H0594: 1, H0626: 1, H0594: 1, H0626: 1, H0591: 1, H0616: 1, |
| <u> </u> | Ser-35 to Gly-40, Ser-103 to His-109, H0144: 6, H0615: 5, Tyr-151 to Gly-159, L0748: 4, L0777: 4, Pro-216 to Glu-224, H0393: 3, T0114: 3, Asn-249 to Trp-258, H0012: 3, H0024: 3, H0547: 3, L0439: 3, H0624: 2, H0170: 2, H0341: 2, L0005: 2, H0341: 2, L0005: 2, L0471: 2, H0031: 2, L0758: 2, H059: 2, L0758: 2, H059: 1, S0212: 1, S0418: 1, S0356: 1, H0619: 1, L0717: 1, S0222: 1, H0594: 1, H0626: 1 H0591: 1, H0626: 1 H0591: 1, H0626: 1 H0591: 1, H0616: 1 |
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| | HCRQL51 |

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| | Ser-26 to Ser-32. | Ala-2 to Thr-9. | Phe-15 to Gly-29. | | | | | | | | | | | | | | | | | | • | | | |
| | 2760 | 2761 | 2762 | | | | | | | | | | | | | | | | | - | | | | |
| | 195 - 533 | 1307 - 525 | 238 - 840 | | | | | | | | | | | | | | | | | | | | | |
| | 585 | 586 | 287 | | | | | | | | | | | | | | | | | | | | | |
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| | 10q26.13- q26.3 |
| H0545: 1, T0003: 1, H0124: 1, H0634: 1, H0087: 1, H0677: 1, H0412: 1, L0763: 1, L0769: 1, L0761: 1, L0659: 1, L0787: 1, L0659: 1, L0787: 1, L0791: 1, H0547: 1, S0126: 1, H0547: 1, H0670: 1, S0328: 1, H0670: 1, L0748: 1, L0744: 1, L0748: 1, L0744: 1, L0748: 1, L0779: 1, L0731: 1, L0759: 1, L0731: 1, L0759: 1, L0731: 1, | H0624: 2, H0586: 2, H0031: 2, L0748: 2, L0439: 2, H0171: 1, S0356: 1, S0376: 1, H0052: 1, H0251: 1, H0050: 1, H0014: 1, H0051: 1, H0647: 1, L0789: 1, H0144: 1, H0658: 1, H0521: 1, L0754: 1, L0752: 1, S0436: 1, S0276: 1 and S0424: 1. |
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| H0024: 2 and H0596: 1. | H0081: 1, H0510: 1 and H0144: 1. | H0543: 7, H0341: 6, S0003: 5, L0740: 5, L0747: 5, H0619: 4, H0575: 4, H0318: 4, S0206: 4, L0750: 4, L058: 4, H0542: 4, H0265: 3, S0358: 3, S0046: 3, H0486: 3, H0069: 3, S0022: 3, L0666: 3, H0556: 2, S0116: 2, S0212: 2, S0418: 2, S0376: 2, S0360: 2, S0132: 2, H0494: 2, H0551: 2, H0494: 2, H0551: 2, H0662: 2, L0655: 2, L0662: 2, L0655: 2, L0662: 2, H0144: 2, H0547: 2, H0144: 2, H0547: 1, S0134: 1, S0114: 1, S0134: 1, S0218: 1, H0650: 1, H0657: 1, H0650: 1, |
| Asn-19 to Asp-29, Leu-34 to Gly-41. | | |
| 2764 | 2765 | 2766 |
| 1 - 351 | 2 - 421 | 1449 - 646 |
| 589 | 290 | 591 |
| 1023339 | 1023375 | 1023414 |
| HLHDK42 | HLDRQ55 | HVVBI06 |

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| 1, H0580: 1, | S0007: 1, H0393: 1, | : 1, H0331: 1, | : 1, T0039: 1, | T0114: 1, H0427: 1, | : 1, H0581: 1, | : 1, H0251: 1, | | i 1, H0009: 1, |): 1, H0620: 1, | F: 1, H0373: 1, | H0510: 1, S6028: 1, | 5: 1, H0267: 1, | S0318: 1, S0316: 1, | H0028: 1, S0214: 1, | H0328: 1, H0428: 1, | 1: 1, H0644: 1, | H0628: 1, H0169: 1, | 8: 1, H0038: 1, | H0616: 1, H0380: 1, | 2: 1, H0412: 1, | S0150: 1, H0647: 1, | 6: 1, S0344: 1, | S0210: 1, S0422: 1, | 2: 1, L0769: 1, | L0372: 1, L0646: 1, | 9: 1, L0774: 1, | J0775: 1, L0438: 1, | H0519: 1, S0126: 1, | H0660: 1, H0666: 1, |
| S0420: 1 | S0007: | H0441 | H0574 | T0114 | H000H | H0052: 1 | H0184: 1, | H0046: 1 | H0050: 1, | H0024: 1, | H0510 | H0266 | S0318 | H0028 | H0328 | H003 | H0628 | H059 | H061 | H027. | S0150 | H064 | S021(| 20003 | L037 | 1064 | L077 | H051 | 990H |
| | | | | | | | | | | | | | | | | | | <u> </u> | | | | | | | | | | | |
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| H0672: 1, S0380: 1, L0602: 1, H0134: 1, S0390: 1, S3014: 1, S0027: 1, S0028: 1, L0748: 1, L0439: 1, L0754: 1, L0749: 1, L0756: 1, L0731: 1, H0444: 1, H0595: 1, L0595: 1, L0361: 1, L0603: 1, H0667: 1, H0422: 1 and S0424: 1. | H0623: 4, H0046: 3, H0581: 2, H0023: 2, H0083: 2, L0791: 2, L0438: 2, L0791: 2, H0539: 2, L0750: 2, H0583: 1, H0341: 1, H0125: 1, S0420: 1, S0356: 1, H0261: 1, S0222: 1, H0261: 1, H0653: 1, H0261: 1, H0653: 1, H0494: 1, L0475: 1, H0538: 1, L3904: 1, S0374: 1, H0660: 1, H0522: 1, H0134: 1, S0228: 1, S0206: 1, L0439: 1, |
| · | Glu-36 to Thr-44, His-72 to Tyr-78, Glu-82 to Tyr-88. |
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| | 2 - 319 |
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| H0542: 1, H0543: 1 and | H0506: 1. | L0591: 11, H0069: 9, H0494: 9, L0588: 7, | H0543: 7, H0657: 6, | H0318: 6, T0042: 6, | H0547: 6, H0556: 5, | L0665: 5, L0751: 5, | H0423: 5, T0002: 4, | 050: 4, L0747: 4, | 779: 4, H0341: 3, | 638: 3, H0580: 3, | 393: 3, H0052: 3, | H0266: 3, H0617: 3, | H0616: 3, H0413: 3, | H0521: 3, L0754: 3, | .0596: 3, L0362: 3, | H0422: 3, H0265: 2, | .0470: 2, H0305: 2, | H0637: 2, S0045: 2, | H0370: 2, T0109: 2, | H0156: 2, H0599: 2, | H0575: 2, H0036: 2, | H0618: 2, H0253: 2, | .0483: 2, H0181: 2, | H0038; 2, H0561: 2, | H0646: 2, L0770: 2, | .0769: 2, L0646: 2, | | L0768: 2, L0803: 2, |
| 0H | HO | Leu-23 to Asp-31, L(| <u>κ</u> , | | | _ | Gly-290 to Gln-299, H0 | Lys-305 to Tyr-312, H0050: 4, L0747: 4, | Glu-341 to Ala-346, L0779: 4, H0341: 3, | Pro-394 to Met-404, H0638: 3, H0580: | Ser-418 to Ser-440, H0393: 3, H0052: | Glu-442 to Gly-450. HO | | HO | <u>3</u> |)H | 3 | H | H | H | H | H | <u></u> | | _ <u>``</u> | <u> </u> | <u></u> | <u> </u> |
| | | 2768 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 1659 - 307 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 593 | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0776: 2, | .0789: 2, L0438: 2, | H0134: 2, | .0743: 2, | L0608: 2, | 50106: 2, | H0170: 1, | T0049: 1, | 30218: 1, | H0255: 1, | H0661: 1, | 50354: 1, | .0717: 1, | 10437: 1, | H0586: 1, | H0574: 1, | H0492: 1, | .0586: 1, | H0581: 1, | H0263: 1, | 10231: 1, | 10544: 1, | 10046: 1, | 10014: 1, | H0083: 1, | 30318: 1, | 30003: 1, | 10428: 1, | 10031: 1, | .0455: 1, |
| L0653: 2, L0776: 2, | L0789: 2,] | L0602: 2, H0134: 2, | S0027: 2, L0743: 2, | L0587: 2,] | L0593: 2, 9 | H0542: 2, | H0294: 1, T0049: 1, | 50134: 1, § | H0484: 1, | H0669: 1, H0661: 1, | H0662: 1, S0354: 1, | 30360: 1, I | 30278: 1, I | H0592: 1, 1 | 10587: 1, 1 | 10632: 1, 1 | T0039: 1, L0586: 1, | 40635: 1, I | H0251: 1, H0263: 1 | 70110: 1, F | 10327: 1, I | H0546: 1, H0046: 1, | 10178: 1, I | 10015: 1, I | 10099: 1, S | H0687: 1, S0003: 1 | 10615: 1, F | 10006: 1, H0031: 1 | H0165: 1, L0455: 1 |
| | | | | | | | | | | | | <u> </u> | <u> </u> | | | .23. | | <u></u> | <u>=</u> . | ⊏. | <u>+-</u> . | <u> </u> | <u>, 11, </u> | <u> </u> | <u></u> | <u>, 44.</u> | <u>. 14.</u> | Ľ | |
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| H0124: 1, S0366: 1, | H0135: 1, H0634: 1, | H0551: 1, H0264: 1, | H0412: 1, H0059: 1, | H0102: 1, S0039: 1, | T0041: 1, H0560: 1, | H0359: 1, H0509: 1, | S0150: 1, L0763: 1, | L0761: 1, L0800: 1, | L0771: 1, L0648: 1, | L0363: 1, L0794: 1, | L0386: 1, L0375: 1, | L0376: 1, L0784: 1, | L0805: 1, L0654: 1, | L0606: 1, L0659: 1, | L0384: 1, L0382: 1, | L0809: 1, L0788: 1, | L0666: 1, L0663: 1, | H0144: 1, H0702: 1, | S0374: 1, H0593: 1, | S0122: 1, H0690: 1, | H0435: 1, H0658: 1, | H0660: 1, H0672: 1, | S0330: 1, H0539: 1, | S0152: 1, H0522: 1, | H0436: 1, H0626: 1, | S3014: 1, L0749: 1, | L0756: 1, L0758: 1, | S0031: 1, S0260: 1, | H0444: 1, H0445: 1, |
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| H0707: 1, L0592: 1, | H0653: 1, H0665: 1, | S0276: 1 and S0424: 1. | L0731: 12, L0439: 10, | L0747: 8, L0770: 7, | L0662: 6, L0775: 5, | L0663: 5, H0423: 5, | L0769: 4, L0752: 4, | H0422: 4, H0657: 3, | H0656: 3, S0356: 3, | S0360: 3, S0222: 3, | H0318: 3, H0083: 3, | L0764: 3, L0768: 3, | L0766: 3, L0809: 3, | L0665: 3, H0547: 3, | H0682: 3, H0659: 3, | H0672: 3, L0750: 3, | L0588: 3, L0591: 3, | S0007: 2, H0581: 2, | H0644: 2, H0412: 2, | S0002: 2, S0426: 2, | L0648: 2, L0364: 2, | L0774: 2, L0375: 2, | L0655: 2, L0666: 2, | L0664: 2, H0520: 2, | H0435: 2, H0666: 2, | H0651: 2, H0521: 2, | S0027: 2, L0740: 2, | L0755: 2, L0757: 2, | L0758: 2, H0542: 2, |
| | - | | Lys-25 to Asp-31, | His-46 to Glu-54, | Ser-80 to Lys-86, | Val-109 to Lys-115, | Arg-143 to Met-149, L0769: 4, L0752: 4 | Lys-193 to Arg-198, H0422: 4, H0657: 3 | His-253 to Gly-259. H0656: 3, S0356: 3, | • | | | | | | | | | | | | | | | | | | | |
| | | | 2769 | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| H0171: 1, H0556: 1, H0686: 1, S0430: 1, | H0650: 1, H0341: 1, | S0212: 1, S0418: 1, L0717: 1, H0411: 1, | H0610: 1, H0415: 1, | H0486: 1, H0427: 1, | 50346: 1, H0596: 1, | H0046: 1, H0050: 1, | H0012: 1, H0014: 1, | H0051: 1, H0355: 1, | H0266: 1, S0250: 1, | L0483: 1, T0006: 1, | L0055: 1, H0040: 1, | H0413: 1, S0472: 1, | S0210: 1, H0695: 1, | L0598: 1, L0640: 1, | L0638: 1, L0761: 1, | L0381: 1, L0803: 1, | L0650: 1, L0651: 1, | . • | L0653: 1, L0776: 1, | L0661: 1, L0527: 1, | L0659: 1, L0529: 1, | L0438: 1, H0519: 1, | H0670: 1, H0648: 1, | S0328: 1, S0044: 1, | H0694: 1, H0555: 1, |
| <u>Li</u> | <u>, 11, (</u> | <u>и</u> | و قطور | | 1, 0) | | | | | | | | | | | | | | | | | | | | |
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|---------|---------|-----|------------|------|---|---|---------|--|
| HOPJGS0 | 1023584 | 595 | 866 - 507 | 2770 | Thr-18 to Asn-31, L0748: 2, L0749: 2 Lys-39 to Ser-47, L0731: 2, H0624: 1, Ser-71 to His-76, H0486: 1, H0309: 1 Gln-113 to Lys-120, L0769: 1, L0653: 1, H0684: 1 and L0779 | L0748: 2, L0749: 2, L0731: 2, H0624: 1, H0486: 1, H0309: 1, L0769: 1, L0653: 1, H0684: 1 and L0779: 1. | 4 | |
| HDUAB04 | 1023585 | 596 | 3 - 371 | 2771 | Thr-21 to Asn-34, Lys-42 to Ser-50, Ser-74 to His-79, Gln-116 to Lys-123. | | 4 | |
| HVCAA38 | 1023632 | 597 | 27 - 818 | 2772 | Asn-12 to Thr-17, Gln-60 to Arg-66, Ser-71 to Asn-83, Thr-89 to Ala-96, Gln-120 to Thr-126, Glu-149 to Lys-154, Thr-213 to Ser-219, Arg-231 to Tyr-244, Trp-252 to Trp-259 | | 22q12.1 | 123620, 188826, 600850, 601669 |
| HIBCN87 | 1023837 | 298 | 1753 - 776 | 2773 | Arg-1 to Cys-7, L0439: 8, L0794: 5 Val-96 to Arg-105, L0758: 5, L0805: 4, Glu-130 to Leu-135, L0809: 4, S0358: 3, Pro-207 to Arg-225, L0769: 3, L0776: 3, Asp-231 to Cys-251, L0665: 3, L0438: 3, Pro-259 to Ile-264, H0658: 3, L0717: 2, | 16 | 22q13.1 | 103050, 103050, 124030, 124030, 138981, 182380, |

| 188826, 190040. | 190040, | 190040 | | | | | | | | | | | | | | | 231950, | 600850 | | | | - | | | | | | |
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| | | | | | | | | | | | | | | | | | 22q11.1 | | | | | | | | | | | |
| H0052: 2, H0059: 2, | L0789: 2, H0690: 2, | L0748; 2, H0556: 1, | S0114: 1, H0583: 1, | S0376: 1, H0600: 1, | H0618: 1, H0253: 1, | T0010: 1, H0252: 1, | H0617: 1, H0038: 1, | H0100: 1, L0520: 1, | L0761: 1, L0768: 1, | L0766: 1, L0783: 1, | L0666: 1, L0663: 1, | H0547: 1, H0593: 1, | H0683: 1, H0670: 1, | H0648: 1, H0436: 1, | L0751: 1, L0755: 1, | H0445: 1 and H0352: 1. | L0438: 3, L0764: 2, | H0659: 2, L0754: 2, | H0589: 1, H0580: 1, | H0013: 1, H0622: 1, | H0617: 1, T0067: 1, | L0767: 1, L0775: 1, | L0655: 1, L0659: 1, | L0666: 1, H0648: 1, | S0330: 1, H0710: 1, | L0748: 1, L0740: 1, | L0747: 1, L0753: 1, | L0480: 1 and L0599: 1. |
| Pro-294 to Pro-304, I | Ser-320 to Pro-326. | | | | | • · · | | | | | | | | | | | Arg-1 to Gln-7, | Pro-18 to Leu-23, | Asp-42 to Ile-47, | Gln-56 to Glu-63, | Glu-93 to Ile-105, | Glu-132 to Leu-137, L0767: | He-202 to Leu-208, | Asn-220 to Lys-226, L0666: 1, H0648: | Asn-254 to Phe-259 80330: 1, H0710: | | | |
| | | | | | | | | | | | | | | | | | 2774 | | | | | | | | | | : | |
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| L0766: 5, L0770: 2, L0803: 2, L0666: 2, L0747: 2, L0603: 2, H0686: 1, S0420: 1, L0662: 1, L0794: 1, L0783: 1, L0383: 1, L0809: 1, L0665: 1, H0684: 1, H0658: 1 and L0750: 1. | L0439: 12, L0743: 5, L0747: 5, L0749: 5, L0769: 4, L0794: 4, L0731: 4, L0803: 3, L0774: 3, L0809: 3, H0254: 2, H0393: 2, H0318: 2, H0052: 2, H0188: 2, H0040: 2, L0659: 2, L0790: 2, L0438: 2, L0753: 2, H0423: 2, H0265: 1, H0685: 1, H0341: 1, H0580: 1, L0717: 1, H0580: 1, L0717: 1, H0550: 1, H0370: 1, H0486: 1, H0013: 1, H0486: 1, H0013: 1, H0250: 1, H0253: 1, H0327: 1, H0046: 1, |
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| | Cys-1 to Gln-6, Val-19 to Ala-24. |
| 2775 | 2776 |
| 609 - 313 | 564 - 1061 |
| 009 | 601 |
| 1024069 | 1024332 |
| HUCPU06 | HPAME01 |

| S0051: 1, H0399: 1, H0687: 1, H0286: 1, H0617: 1, H0032: 1, H0673: 1, S0036: 1, H0135: 1, H0591: 1, H0087: 1, H0100: 1, T0041: 1, H0494: 1, H0561: 1, H0130: 1, L0651: 1, L0664: 1, L0651: 1, L0667: 1, L0664: 1, L0665: 1, L0664: 1, L0665: 1, L0664: 1, H0547: 1, H0519: 1, H0631: 1, S0044: 1, H0631: 1, S0046: 1, L0754: 1, L0779: 1, L0780: 1, L0779: 1, L0780: 1, L0527: 1 and H0506: 1. | L0740: 15, L0754: 7, L0747: 6, L0777: 6, L0662: 5, H0539: 5, L0439: 5, L0758: 5, L0438: 4, L0748: 4, S0444: 3, H0031: 3, H0553: 3, L0770: 3, L0774: 3, L0749: 3, L0756: 3, L0755: 3, |
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| <u>OTTHER PHOLOGOPHERS</u> | Pro-1 to His-22, L0740: Lys-45 to Arg-59, L0747: 6 Asp-77 to Pro-88, L0662: Ser-109 to Glu-119. L0439: C0444: H0553: L0774: |
| | 2777 Pr. Ly |
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| L0757: 3, S0300: 2, | H0427: 2, H0046: 2, | H0123: 2, H0264: 2, | H0413: 2, L0646: 2, | L0794: 2, L0663: 2, | H0547: 2, H0672: 2, | L0744: 2, L0779: 2, | L0731: 2, L0362: 2, | S0040: 1, H0713: 1, | S0400: 1, S0354: 1, | S0358: 1, S0376: 1, | S0408: 1, H0722: 1, | S0045: 1, S0476: 1, | H0393: 1, S0222: 1, | H0643: 1, S0280: 1, | H0156: 1, L0105: 1, | F0048: 1, H0230: 1, | H0052: 1, H0251: 1, | H0545: 1, L0157: 1, | H0014: 1, S6028: 1, | S0036: 1, H0634: 1, | H0551: 1, H0551: 1, | F0067: 1, L0598: 1, | .0637: 1, L0764: 1, | 20773: 1, L0521: 1, | .0533: 1, L0804: 1, | ,0806: 1, L0776: 1, | | .0659: 1, L0783: 1, | .0809: 1, L0666: 1, |
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| H0519: 1, S0126: 1, H0689: 1, H0658: 1, H0666: 1, H0648: 1, H0651: 1, S0328: 1, S0152: 1, S0350: 1, H0521: 1, H0696: 1, S0146: 1, L0750: 1, L0752: 1, L0759: 1, H0445: 1, L0684: 1, L0686: 1, S0434: 1, S0436: 1, L0599: 1, L0361: 1 and S0106: 1. | H0553: 9, H0624: 4, L0471: 4, H0619: 3, H0494: 3, H0520: 3, H0547: 3, S0126: 3, L0755: 3, H0013: 2, H0040: 2, L0659: 2, L0666: 2, L0659: 2, H0144: 2, H0519: 2, H0670: 2, L0780: 2, L0361: 2, S0026: 2, H0171: 1, H0661: 1, S0360: 1, H0244: 1, H0156: 1, L0021: 1, S0010: 1, H0052: 1, S0010: 1, H0052: 1, H0046: 1, L0143: 1, S0214: 1, L0142: 1, |
| <u> </u> | Gly-29 to Glu-35, H0553: 9, H0624: 4, Met-57 to Lys-64, L0471: 4, H0619: 3, Ser-104 to Ser-109, H0494: 3, H0520: 3, Tyr-122 to Val-128, H0547: 3, S0126: 3, Pro-144 to Asp-153, L0755: 3, H0013: 2, Pro-244 to Gly-253, H0031: 2, H0644: 2, Arg-323 to Pro-330. H0040: 2, L0659: 2, L0666: 2, L0665: 2, H0144: 2, H0519: 2, H0670: 2, L0780: 2, L0361: 1, S0360: 1, H0244: 1, H0156: 1, L0021: 1, S0360: 1, H054: 1, H0156: 1, L0163: 1, H0046: 1, L0163: 1, H0046: 1, L0163: 1, H0052: 1, H |
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| | | | | | | | | | | | | | | Ile-1 to Gln-18, | Lys-69 to Gln-74, | Ala-81 to Arg-86, | Lys-102 to Lys-107, | Glu-146 to Val-153, | His-156 to Ile-161, | Glu-195 to Ser-207, | Asp-306 to Leu-316, | Ala-318 to Gly-333, S0027: 6, L0591: 6, | Gln-346 to Asp-352. H0657: 5, S0358: 5 | | - | | | | |
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| T0042: 1 H0560: | 90H | 101 | 2 5 | 101 | 103 | 1703 | 101 | 108 | 101 | 90 <u>7</u> | 90H | 90H | H05 | HOC | H04 | HOC | HO | 00S | 70H |)OH |)SS | 200 | | 1702 | 10, | ğ | S01 |
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| Lys-28 to Thr-33, | Asn-35 to Lys-53, | Ala-90 to Giu-104. | Ciu-41 to Lys-46, | A 27 100 to A 27 114 II | ASP-109 to Arg-114, H0345: 6, H0250: 7, His-133 to A sm-138 H0618: 7 1 0601: 7 | λ #π 170 to Cly 191 is | Arg-1 /0 to Giu-181, S0046; 6, HU424; 6, | Ala-246 to Pro-254, | Lys-282 to Ser-287, I | Ala-296 to Asp-302. | | | , , , , | | <u> </u> | | | | <u> </u> | <u> </u> | . . | <u> </u> | | <u>, , , , , , , , , , , , , , , , , , , </u> | <u>щ</u> | <u>н</u> | <u></u> | | |
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| H0059: 2, T0042: 2, | S0440: 2, H0641: 2, | S0210: 2, S0002: 2, | S0126: 2, H0689: 2, | H0666: 2, H0521: 2, | S0027: 2, L0752: 2, | S0434: 2, H0422: 2, | S0042: 2, S0424: | H0170: 1, H0171: 1 | H0556: 1, T0002: | H0218: 1, H0161: 1 | H0686: 1, S0342: | H0716: 1, H0295: 1 | H0294: 1, H0656: 1 | H0483: 1, H0661: | H0458: 1, H0638: | H0192: 1, S0356: 1 | S0442: 1, S0376: 1 | S0444: 1, H0675: 1, | H0580: 1, S0468: | H0208: 1, H0393 | L0717: 1, S0278: 1 | H0261: 1, H0550: 1 | S6014: 1, H0370: | | H0559: 1, H0256 | H0485: 1, T0040: 1 | L0586: 1, H0069: | H0075: 1, H0042: | H0581: 1, H0121: |
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| H0041: 1 | H0050: 1 | H0620: 1 | L0163: 1 | S0051: 1 | H0083: 1 | H0179: 1 | H0292: 1, | S0022: 1 | H0553: 1 | H0617: 1 | H0598: 1 | H0087: 1 | H0412: 1 | H0056: 1 | T0041: 1 | H0625: 1 | S0294: 1 | H0509: 1 | H0646: 1 | S0344: 1 | L0565: 1 | H0693: 1 | H0593: 1 | H0658: 1 | H0660: 1 | S0332: 1 | H0694: 1 | H0479: 1 | H0626: 1, |
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| | Gly-22 to Glu-28, Glu-42 to Arg-60, Leu-67 to Glu-89, Asp-106 to Thr-118, Gln-120 to Ile-130. |
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| | 12q12-q13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S0308: 1, H0595: 1, L0596: 1 and L0599: 1. | L0805: 3, H0657: 2, | L0659: 2, L0809: 2, | L0789: 2, L0665: 2, | L0565: 2, H0659: 2, | L0749: 2, L0777: 2, | L0755: 2, L0596: 2, | H0685: 1, H0583: 1, | H0650: 1, H0656: 1, | H0663: 1, S0420: 1, | S0356: 1, H0619: 1, | L0717: 1, H0586: 1, | H0251: 1, H0050: 1, | H0622: 1, H0135: 1, | H0038: 1, H0551: 1, | H0272: 1, H0561: 1, | H0509: 1, L0637: 1, | L0646: 1, L0794: 1, | L0387: 1, L0776: 1, | L0655: 1, L0657: 1, | L0636: 1, L0666: 1, | L0664: 1, H0520: 1, | H0547: 1, H0519: 1, | H0672: 1, L0593: 1, | H0667: 1 and H0352: 1. | L0747: 4, L0757: 4, | L0759: 4, L0770: 3, | L0769: 2, L0659: 2, |
| | Ala-1 to Ser-8. | | | | | | | | | | | | | | | | | | | | | | | • | Pro-19 to Cys-28. | | |
| | 2783 | | | | | | | | | | | | | | | | | | | | | | | | 2784 | | |
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| H0691: 2, L0750: 2, S0116: 1, H0638: 1, S0300: 1, H0587: 1, L0021: 1, S0474: 1, H0529: 1, L0768: 1, L0775: 1, L0776: 1, L0634: 1, L078: 1, L0663: 1, H0689: 1, H0521: 1, S0027: 1, L0778: 1, L0777: 1, L0778: 1, L0777: 1, L0758: 1, L0777: 1, L0778: 1, L0777: 1, L0778: 1, L0777: 1, L0778: | H0556: 4, H0253: 4, H0620: 4, L0731: 3, S0212: 2, H0052: 2, H0124: 2, L0565: 2, L0809: 2, L0565: 2, S0126: 2, S0328: 2, L0603: 2, H0739: 1, S0114: 1, S0218: 1, H0657: 1, S0116: 1, H0657: 1, S046: 1, S0278: 1, H0549: 1, H0550: 1, H0549: 1, H0550: 1, H0549: 1, H0550: 1, H0549: 1, H0550: 1, H0549: 1, |
| | Ser-26 to Ile-35. |
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| | 147 - 617 |
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| H0355: 1, H0416: 1, H0428: 1, L0483: 1, H0032: 1, S0364: 1, H0032: 1, S0364: 1, H0054: 1, H0617: 1, H0494: 1, H0560: 1, L0065: 1, H0132: 1, H0647: 1, L0770: 1, L0769: 1, L0770: 1, L0769: 1, L0571: 1, L0578: 1, L0571: 1, H0732: 1, S0032: 1, H0732: 1, S0032: 1, L0739: 1, L0770: 1, L0739: 1, L0770: 1, L0779: 1, L0779: 1, L0779: 1, L0779: 1, L0758: 1, L0759: 1, L0758: 1, L0759: 1, L0758: 1, L0759: 1, L0758: 1, L0759: 1, H0658: 1, L0595: 1, H0665: 1, H0423: 1 and S0446: 1. | L0439: 2, H0687: 1, L0761: 1, L0805: 1, L0438: 1 and H0670: 1. |
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| | Phe-9 to Trp-14, Arg-125 to Asp-148, Ser-156 to Asp-163, Pro-206 to His-211. |
| | 2786 |
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| | 611 |
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| | HNOKW27 |

| 300008, 300008, 300008, 300008, 300071, 300110, 301000, 301000, 301830, 309470, 309850, 309850, 311050, | |
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| 2, AR039: 2, 2, AR053: 2, 2, AR060: 1, 1, AR061: 1, 1, S0136: 1, 1 and L0749: 1. | AR089: 13, AR060: 5, AR096: 5, AR104: 5, AR061: 2, AR055: 1 S0152: 12, S0356: 10, H0551: 6, H0423: 6, S0212: 5, H0090: 5, H0667: 5, S0358: 4, H0620: 4, L0794: 4, S0380: 4, L0731: 4, L0588: 4, S0242: 4, S0360: 3, S0474: 3, H0581: 3, S0126: 3, |
| AR089: | Ser-1 to Gly-18, Arg-46 to Ser-52, Ala-103 to Ala-108, Ser-154 to Gly-165, H0551: 6, H0423: 6, Gln-228 to Pro-236, S0212: 5, H0090: 5, Ser-284 to Gly-291, H0667: 5, S0358: 4, Ala-321 to Asp-406 to Ser-416. S0380: 4, L0731: 4, L0588: 4, S0242: 4, S0360: 3, S0474: 3, H0581: 3, S0126: 3, S0474: 3, S0126: 3, S0474: 3, S0126: 3, S0474: 3, S0126: 3, S0474: 3 |
| 2787 | 2788 Ser-1 to Trp-25 1 Arg-46 Ala-103 Ser-154 Gln-228 Ser-284 Ala-321 Lys-377 Asp-40 |
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| H0436: 3. S0028: 3. | L0756: 3, H0445: 3, | S0192: 3, S0196: 3, | H0656: 2, S0116: 2, | S0442: 2, S0376: 2, | S0046: 2, H0549: 2, | H0098: 2, H0014: 2, | S0003: 2, H0560: 2, | H0641: 2, H0529: 2, | C0766: 2, H0520: 2, | H0519: 2, H0666: 2, | .0602: 2, H0478: 2, | .0740: 2, L0751: 2, | J0754: 2, S0434: 2, | .0595: 2, H0542: 2, | H0543: 2, H0624: 1, | H0170: 1, S0040: 1, | S0402: 1, S0134: 1, | H0341: 1, H0661: 1, | H0663: 1, H0449: 1, | H0638: 1, S0045: 1, | S0140: 1, L0717: 1, | H0411: 1, S0222: 1, | H0497: 1, H0486: 1, | F0040: 1, H0244: 1, | H0427: 1, H0004: 1, | H0596: 1, H0566: 1, | L0163: 1, H0051: 1, | S0051: 1, T0079: 1, | H0375: 1, H0060: 1, |
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| S0250: 1, H0615: 1, H0029: 1, H0553: 1 | H0644: 1, H0032: 1, | H0169: 1, H0316: 1, | H0038: 1, H0040: 1, | H0634: 1, H0063: 1, | T0067: 1, H0477: 1, | H0488: 1, H0623: 1, | H0494: 1, H0625: 1, | L0065: 1, S0438: 1, | H0509: 1, S0142: 1, | L0770: 1, L0646: 1, | L0662: 1, L0653: 1, | L0776: 1, L0659: 1, | L0526: 1, L0666: 1, | S0374: 1, H0693: 1, | H0547: 1, H0682: 1, | H0435: 1, H0658: 1, | H0660: 1, H0648: 1, | H0672: 1, S0328: 1, | H0710: 1, H0518: 1, | H0579: 1, H0704: 1, | H0555: 1, S0390: 1, | 80037: 1, 80027: 1, | L0439: 1, L0747: 1, | L0752: 1, L0759: 1, | H0444: 1, H0595: 1, | L0362: 1, S0011: 1, | S0194: 1 and S0384: 1. | H0547: 10, H0013: 9, |
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| <i>O</i> , 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 89 Ala-8 to Arg-14, |
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| 69, L0758: 8, L0771: 6, | _= | _ | | /s-208, H0251: 4, H0038: 4, | Gly-216 to Gly-223, H0040: 4, T0041: 4, | Asp-297 to Ser-307, L0766: 4, S0152: 4, | .u-383, L0439: 4, H0171: 3, | -404, S0360: 3, S0046: 3, | | T0042: 3, S0440: 3, | H0529: 3, H0670: 3, | S0330: 3, H0539: 3, | L0754: 3, L0749: 3, | L0779: 3, H0624: 2, | S0134: 2, H0583: 2, | H0657: 2, S0116: 2, | S0418: 2, S0354: 2, | S0045: 2, H0318: 2, | T0110: 2, H0046: 2, | H0266: 2, S0003: 2, | H0591: 2, H0634: 2, | H0412: 2, H0561: 2, | L0768: 2, L0806: 2, | L0664: 2, H0144: 2, | L0565: 2, H0519: 2, | H0659: 2, H0672: 2, | S0328: 2, S0378: 2, | H0521; 2, H0696; 2, | H0345: 2, L0741: 2, |
| Ile-64 to Thr-69, | Val-94 to Asp-101, | His-112 to Gln-117, | Tyr-139 to Glu-145, | Tyr-195 to Cys-208, | Gly-216 to Gl | Asp-297 to Se | Gly-378 to Leu-383, | Ile-391 to Pro-404, | Asn-451 to Ser-466. | | | | | • | | -11. | | | | | | | | | | | | : | |
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| J0743: 2, L0748: 2, | .0751: 2, L0759: 2, | .0593: 2, L0595: 2, | H0667: 2, H0136: 2, | H0423: 2, H0556: 1, | S6024: 1, H0661: 1, | H0663: 1, S0444: 1, | S0278: 1, H0592: 1, | HO587: 1, HO497: 1, | H0333: 1, H0492: 1, | H0427: 1, S0280: 1, | H0575: 1, S0474: 1, | H0596: 1, H0546: 1, | H0123: 1, H0050: 1, | L0471: 1, H0373: 1, | L0163: 1, H0051: 1, | H0083: 1, H0687: 1, | H0328: 1, H0688: 1, | H0622: 1, T0006: 1, | H0169: 1, H0674: 1, | H0708: 1, H0598: 1, | H0616: 1, H0268: 1, | H0623: 1, H0100: 1, | L0475: 1, S0438: 1, | S0150: 1, H0646: 1, | L0369: 1, L0763: 1, | L0638: 1, L0646: 1, | L0773: 1, L0521: 1, | L0662: 1, L0794; 1, | L0522: 1, L0803: 1, |
| | | <u></u> | <u>, 144</u> | | <u>ss</u> | | <u>. 01</u> | | <u>_</u> | | -14 | <u> </u> | F-5 | | - | | | | | | - -3. | | | | | | | | |
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| L0774: 1, L0775: 1, L0776: 1, L0558: 1, L0527: 1, L0558: 1, L0659: 1, L0526: 1, L0789: 1, L0666: 1, H0520: 1, H0689: 1, H0660: 1, H0689: 1, H0660: 1, H0648: 1, S0380: 1, S0406: 1, H0478: 1, H0626: 1, S0027: 1, S0028: 1, L0740: 1, L0786: 1, L0757: 1, S0434: 1, L0757: 1, S0434: 1, L0757: 1, S0434: 1, L0757: 1, S0434: 1, L0596: 1, L0592: 1, S0026: 1, H0542: 1, S0026: 1, H0542: 1, S0026: 1, H0542: 1, S0424: 1, S0384: 1, | L0748: 2, L0745: 2, S0040: 1, H0637: 1, H0580: 1, H0553: 1 and L0761: 1. | L0758: 9, S0412: 8, L0749: 6, S0360: 5, H0038: 5, L0662: 5, L0751: 5, S0356: 3, H0618: 3, S0051: 3, H0616: 3, L0666: 3, L0743: 3, L0439: 3, L0731: 3, H0295: 2, |
| · | Leu-11 to Gly-22, Ala-87 to Gly-96. | |
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| H0587: 2, H0135: 2, | H0591: 2, L0769: 2, | 0775: | .0659; 2, L0665; 2, | 10672: 2, S0330: 2, | H0539: 2, H0436: 2, | .0754; 2, L0588; 2, | 10352: | T0002: 1, H0381: 1, | 10341: | H0638: 1, H0339: 1 | [0411: | H0441: 1, H0586: 1 | H0333: 1, H0574: | S0280: 1, L0021: | H0253: 1, S0010: 1 | 0049: | H0085: 1, L0471: 1 | l, T0010: 1 | 10030 | H0181: | H0032: 1, H0361: | H0598: 1, H0090: | H0529 | L0772: | .0764: | L0648: | L0767: 1 | .0375: | L0653: |
| 7: 2, H | 1: 2, L | 4: 2, L | 9: 2, L | 2: 2, S | 9:2, E | 4: 2, L | 5: 2, H | 2: 1, H | 6: 1, H | 8: 1, F | 7: 1, H | 11: 1, F | 3: 1, F | 0: 1, L | 33: 1, S | 6: 1, S | 35: 1, I | 24: 1, 7 | H0239: 1, I | 31: 1, I | 32: 1, I | 98: 1, I | 30: 1, 1 | ,0637: 1, 1 | .0646: 1, I | 0771: 1, I | .0521: 1, I | 0766: 1, I | .0378: 1, I |
| H058 | H059 | 1077 | 1065 | H067 | H053 | L075 | 0907 | <u>1</u> 000 | S011 | H063 | 1,071 | H04 | H033 | S028 | H025 | S034 | H009 | H0024: 1 | H02 | H0031: 1 | H00. | HOS | H01 | 106 | 700 | 107 | 105 | 107 | L03, |
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| L0657: 1, L0544: 1, L0647: 1, H0435: 1, H0659: 1, H0658: 1, H0670: 1, H0660: 1, H0551: 1, H0696: 1, H0555: 1, H0478: 1, S0037: 1, S0027: 1, L0756: 1, L0777: 1, L0756: 1, L0777: 1, L0756: 1, L0591: 1, S0026: 1 and S0446: 1. | H0618: 12, H0253: 11, L0777: 8, L0755: 8, 82, L0794: 6, L0659: 6, 27, L0758: 6, S0192: 5, 54, L0743: 4, S0418: 3, L0744: 3, S0420: 2, S0046: 2, S0132: 2, H0333: 2, H0599: 2, L0774: 2, L0774: 2, L0756: 2, L0774: 2, L0756: 2, L0779: 2, L0756: 1, H0255: 1, H0255: 1, H0255: 1, H0255: 1, H0580: 1, H0645: 1, H05497: 1, H05497: 1, |
| · | Gln-52 to Thr-58, Pro-105 to Asp-111, Arg-175 to Cys-182, Leu-221 to Val-227, Thr-257 to Gly-264, Ser-266 to Glu-271. |
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| H0492: 1, T0040: 1, | 10505: 1, H0545: 1, | H0150: 1, H0086: 1, | H0123: 1, H0023: 1, | H0024: 1, H0014: 1, | I0051: 1, H0028: 1, | H0615: 1, H0688: 1, | | H0617: 1, H0059: 1, | H0494: 1, H0538: 1, | L0769: 1, L0637: 1, | • | | • | | | .0741: 1, L0740: 1, | J0747: 1, L0752: 1, | 20757: 1, H0665: 1, | S0042: 1 and H0506: 1. | H0666: 13, H0620: 7, | 0731: 7, L.0747: 6, | L0750: 5, L0757: 5, | S0360: 4, H0123: 4, | S0022: 4, H0135: 4, | L0666: 4, L0665: 4, | S0028: 4, L0748: 4, | L0777: 4, L0588: 4, | S0420: 3, S0358: 3, |
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| H0208: 3, H0545: 3, | H0046: 3, H0284: 3, | 0650: 3, L0375: 3, | .0382: 3, H0352: | H0592: 2, H0544: 2, | H0024: 2, H0266: 2, | H0286: 2, H0252: 2, | H0615: 2, H0428: 2, | H0628: 2, H0551: 2, | 10100: 2, S0210: 2, | 0763: 2, L0770: 2, | 0774: 2, L0661: 2, | | 10670: 2, S0037: 2, | 0751: 2, L0752: 2, | 5: 2, L0758: 2, | 11: 2, S0194: 2 | H0170: 1, H0265: | 10686: 1, S0040: | H0295: 1, H0341: | 38: 1, S0444: | H0580: 1, H0329: | Ţ, | 2: 1, S0476: | H0619: 1, H0645: | J0717: 1, S0278: | H0550: 1, H0586: | H0333: 1, L0021: | H0575: 1, H0253: 1 | 2: 1, H0150: |
| H02(| 00H | 1065 | 1038 | H05 | H00; | H028 | H06 | H06; | H01(| 1.076 | 1.077 | L051 | 90H | 1075 | L0755: 3 | L0601: 2 | H01. | 390H) | H02 | H0638: 1 | HOS | S046 | S0132: | (90H) | L071 | H05 | H03 | H057 | H0052: |
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| H0041: 1, H0563: 1, H0081: 1, H0050: 1, L0163: 1, H0050: 1, H0688: 1, H0040: 1, H0646: 1, L0772: 1, L0800: 1, L0643: 1, L0764: 1, L0662: 1, L0764: 1, L0662: 1, L0767: 1, L0775: 1, L0805: 1, L0776: 1, L0805: 1, L078: 1, H0659: 1, L0663: 1, H0682: 1, H0660: 1, H0682: 1, H0660: 1, H0709: 1, S0152: 1, H0436: 1, L0745: 1, L0759: 1, L0593: 1, L0759: 1, L063: 1, L0759: 1, L0603: 1, H0668: 1, S0027: 1, L0759: 1, L0603: 1, H0668: 1, S0026: 1 and H0668: 1, S0026: 1 and | H0328: 2, H0656: 1 and H0538: 1. | H0583: 2, L0744: 2, L0747: 2, H0650: 1, H0656: 1, S0356: 1, |
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| | | Tyr-1 to Pro-8, Asp-21 to Lys-28, Arg-30 to Ile-38, |
| | 2794 | 2795 |
| | 87 - 497 | 1889 - 2770 |
| | 619 | 620 |
| , | 1026372 | 1026805 |
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| | | 1, | 1, | 1, | 1, | | 77: 1. | 6: | R039: | R060: | R104: | R061: | | 4: 15, | 12, | 11, | 6 | | 7, | | | | | | | 3, | 3, | | |
| H0013.1 H0500. | H0581: 1, H0251: | | H0615: 1, H0135: | H0488: 1 | L0521: 1, H0539: 1 | H0522: 1, S0028: 1 | L0366: 1 and H06 | AR052: 91, AR096: | 79, AR053: 69, A. | 64, AR089: 46, AR060: | 39, AR033: 35, A | 32, AR055: 14, AR061: | 10 | L0805: 22, L0794: 15, | L0766: 12, L0747: 12, | L0803: 11, L0740: 11, | L0779: 11, L0776: 9 | L0769: 7, H0521: | L0439: 7, L0731: | L0605: 7, S0474: 6, | S0422: 6, L0752: 6, | L0665: 5, L0748: 5 | L0758: 5, H0618: 4 | S0010: 4, L0771: 4 | L0789: 4, S3014: 4 | H0341: 3, H0615: 3 | H0708: 3, L0763: 3 | L0804: 3, L0659: 3, | L0809: 3, S0052: 3 |
| A on 71 to Gln 76 | Val-85 to Pro-101, | Ser-104 to Arg-111, | His-123 to Arg-128, | Glu-146 to Arg-152, | Val-155 to Asp-271, L0521: 1, | Leu-274 to Gly-279, H0522: 1, | Ser-283 to Glu-290. L0366: 1 and H0677: 1 | Asn-53 to Arg-58, | | | Lys-195 to Lys-200. | • | | | | | | | | | | | | | | | • | | |
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| .0438: 3, H0658: 3, | H0436: 3, L0759: 3, | S0360: 2, S0222: 2, | H0574: 2, H0599: 2, | H0196: 2, H0050: 2, | H0266: 2, H0135: 2, | H0038: 2, H0616: 2, | L0770: 2, H0144: 2, | S0374: 2, L0352: 2, | H0682: 2, H0670: 2, | L0743: 2, L0744: 2, | L0751: 2, L0749: 2, | | S0424: 2, H0624: 1, | T0002: 1, T0049: 1; | H0657: 1, L0785 | H0671: 1, S0442: 1, | S0444: 1, S0408: 1, | H0733: 1, S0278: 1, | H0431: 1, H0013 | S0280: 1, H0581: | S0049: 1, H0052: | H0251: 1, L0040: | H0123: 1, L0471: | H0630: 1, H0375: | S0003: 1, H0252: | L0483: 1, T0006: 1 | H0644: 1, H0673: 1 | S0036: 1, H0163: 1, | H0040: 1, H0551: 1 |
| | | <u> </u> | | | H4. | . H | , 1 - 1 | <u> </u> | | | | -= | <u> </u> | - | | | | | | | | | | | | | | | |
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| | | Pro-2 to Pro-8. |
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| H0662: 1, S0046: 1, H0658: 1 and H0670: 1 | L0803: 12, H0581: 8, S0358: 6, H0046: 6, H0428: 6, S0356: 5, S0007: 5, H0031: 4, L0665: 4, H0271: 3, H0693: 3, L0794: 3, L0756: 3, L0758: 3, L0592: 3, S0116: 2, S0444: 2, H0616: 2, H0616: 2, H0616: 2, L0770: 2, H0616: 2, L0770: 2, L0776: 2, L0770: 2, L0776: 2, L0770: 2, L0776: 2, L0787: 2, L0776: 2, L0787: 2, L0776: 2, L0787: 2, L0788: 2, L0787: 2, L0788: 2, L0787: 2, L0788: 2, L0788: 2, H0660: 2, S0192: 2, H0650: 1, R0657: 1, H0650: 1, H0650: 1, H0650: 1, H0658: 1, H0658 | S0354: 1, S0360: 1, |
| Glu-13 to Gly-18. | | |
| 2798 | 2799 | |
| 536 - 447 | 3 - 1565 | |
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| S0410 : | S0045: | S0278: | H0497 | T0109: | H0705: | S0474: | H0565: | H0050 | S0003: | H0488 | T0041: | S0438: | , S0144: | L0763: | L0372: | L0764: 1 | L0649: | L0523: | L0655: 1 | L0527: | L0809: | L0664: | \$0053: | S0374: | H0519 | H0682: | H0648 | \$0378: | S0044: |
| S0408: 1, S0410: 1 | H0329: 1, S0045: 1 | 46: 1, | H0441: 1, H0497: | H0331: 1, T0109: | S0280: 1, H0705: | H0318: 1, S0474: | F0110: 1, H0565: | H0572: 1, H0050: | H0687: 1, S0003: | 553: 1, | H0412: 1, T0041: 1 | H0494: 1, S0438: | 30440: 1, | H0517: 1, L0763: | .0772: 1, L0372: | .0800: 1, | .0364: 1, | .0774: 1, | .0805: 1,] | .0807: 1, | .0659: 1, L0809: 1 | 63: 1, | S0428: 1, S0053: | H0144: 1, S0374: | H0520: 1, H0519: | S0126: 1, H0682: | H0435: 1, H0648: 1 | H0672: 1, S0378: 1, | H0521: 1, S0044: |
| S04 | HO | 200 | HOH. | HO | S02 | HO | <u>0</u> |)H | HO | HO | Ю Н О | 70H | S04 | HO | <u>1</u> | <u>8</u> | <u> </u> | <u>5</u> | <u>0</u> | <u> </u> | <u>š</u> | <u>ន</u> ្ទ | S04 | HO | HO | S01 | 70 <u>H</u> | HOH | HU |
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| | 178640, 216900 | · | 2118504, 118504, |
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| H0478: 1, H0627: 1, H0631: 1, S0027: 1, L0740: 1, L0747: 1, L0749: 1, L0777: 1, L0752: 1, H0445: 1, S0436: 1, L0591: 1, S0196: 1, H0543: 1, S0446: 1 and H0506: 1. | H0667: 3, S0222: 2, H0013: 2, L0438: 2, H0265: 1, H0583: 1, S0280: 1, H0036: 1, H0266: 1, H0328: 1, H056: 1, H0328: 1, H0553: 1, S0364: 1, H0488: 1, L0796: 1, H0488: 1, L0796: 1, | | H0690: 1, H0683: 1, H0666: 1 and S0328: 1. |
| <u> </u> | | Pro-1 to Leu-8, Arg-41 to Gly-48, Ile-73 to Cys-80, Ala-137 to Tyr-144, Lys-193 to Ala-208, Leu-254 to Leu-259, Ala-317 to Ala-323, Glu-343 to Phe-349. | Leu-46 to Thr-53, Pro-80 to Ser-86, |
| · | 2800 | 2801 | 2802 |
| | 2 - 136 | 711-117 | 1 - 393 |
| | 625 | 979 | 627 |
| · | 1027207 | 1027269 | 1027484 |
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| 131242, 139320, 139320, 139320, 139320, 600281, 600281, | | |
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| <u>.</u> | | |
| | L0751: 29, H0549: 17, H0550: 17, L0666: 9, L0747: 8, H0689: 7, H0690: 7, H0682: 7, H0660: 4, S0330: 4, H0560: 4, S0330: 4, H0560: 4, L0362: 4, H0597: 3, H0688: 3, L0764: 3, L0764: 3, L0759: 3, H0641: 2, H0647: 2, H0647: 2, L0774: 2, L0438: 2, H0647: 2, L0783: 2, L0438: 2, H0567: 2, L0438: 2, L04 | 50328: 2, 50404: 2, 50328: 2, 50404: 2, 50744: 2, L0779: 2, 50436: 2, H0662: 1, 50442: 1, 50444: 1, |
| Arg-101 to Gly-112, Lys-115 to Gly-122. | Leu-52 to Thr-59, L0751: 29, H0549: Pro-86 to Ser-92, H0550: 17, L0666: 5 Arg-107 to Gly-128. H0690: 7, H0689: 7, H0682: 7, H0615: 6, H0670: 6, H0615: 6, H0670: 6, H0660: 4, S0330: 4, S0044: 4, L0362: 4, H0597: 3, H0688: 3, L0764: 3, L0759: 3, L0758: 3, L0759: 3, H0647: 2, H0046: 2, H0647: 2, L0778: 2, L0 | · · · · · · · · · · · · · · · · · · · |
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| · | Sq11.1 | |
| S0408: 1, S0007: 1, H0461: 1, H0085: 1, H0009: 1, S0024: 1, H0188: 1, H0039: 1, H0169: 1, H0424: 1, L0520: 1, L5569: 1, L0803: 1, L0804: 1, L0775: 1, L0658: 1, L0634: 1, L0542: 1, L0528: 1, L0658: 1, H0684: 1, H0659: 1, H0684: 1, H0659: 1, S0406: 1, H0555: 1 and L0780: 1. | H0306: 1 and S0388: 1.5q11.1 | AR053: 5, AR089: 5, AR096: 4, AR039: 4, AR060: 3, AR104: 2, AR055: 2, AR033: 2, AR061: 1 L0731: 15, L0754: 14, H0616: 9, L0766: 8, L0758: 8, L077: 7, H0266: 5, L0752: 5, S0358: 4, S0422: 4, L0518: 4, H0547: 4, S0406: 4, H0013: 3, |
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| H0581: 3, H0545: 3, | H0083: 3, S0003: 3, | L0662: 3, L0776: 3, | H0659: 3, L0439: 3, | L0753: 3, S0434: 3, | L0465: 3, H0171: 2, | H0580: 2, H0486: 2, | H0318: 2, L0471: 2, | H0428: 2, H0553: 2, | H0032: 2, H0038: 2, | H0634: 2, H0551: 2, | S0438: 2, L0764: 2, | L0804: 2, L0655: 2, | L0664: 2, S0374: 2, | H0684: 2, H0672: 2, | H0651: 2, H0518: 2, | L0740: 2, L0756: 2, | L0362: 2, L0603: 2, | H0170: 1, H0686: 1, | S0040: 1, H0583: 1, | H0657: 1, S0212: 1, | S0282: 1, S0420: 1, | S0356: 1, S0442: 1, | L0717: 1, H0411: 1, | H0600: 1, H0587: 1, | H0257: 1, T0039: 1, | H0069: 1, S0280: 1, | H0575: 1, H0036: 1, | H0590: 1, L0105: 1, | S0049: 1, H0570: 1, |
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| H0413: 2, H0556: 1, H0638: 1, S0376: 1, H0457: 1, H0009: 1, H0519: 1, H0682: 1, H0672: 1, L0748: 1, L0759: 1 and H0445: 1. | L0665: 3, L0777: 3, L0717: 2, L0776: 2, L0438: 2, L0756: 2, L0752: 2, S0116: 1, H0661: 1, H0339: 1, H0648: 1, H0587: 1, L0437: 1, L0769: 1, L0637: 1, L0771: 1, L0662: 1, L0794: 1, L0766: 1, L0794: 1, L0766: 1, L0794: 1, L0766: 1, L0794: 1, L0766: 1, L0798: 1, L0787: 1, L0778: 1, L0754: 1, L0778: 1, L0731: 1, L0788: 1, L0731: 1, L0788: 1, | L0770: 4, L0439: 4, L0438: 3, H0670: 3, L0748: 3, L0740: 3, H0538: 2, L0777: 2, S0342: 1, S0110: 1, |
| Pro-32 to Lys-38, H0413: 2, H0556: Ser-201 to Pro-211, H0638: 1, S0376: 1 Glu-217 to Glu-222, H0457: 1, H0609: H0519: 1, H0682: H0672: 1, L0748: 1 L0759: 1 and H044 | Gln-8 to Arg-27, Val-34 to Asn-39, Tyr-65 to Gly-75, Glu-80 to Lys-87, Thr-207 to Gly-218, Thr-245 to Gln-250, Leu-256 to Thr-263, Leu-273 to Thr-281, Lys-289 to Leu-296, Ser-323 to Asn-330. | Asp-1 to Gly-6, Pro-14 to Trp-35, Arg-37 to Gly-45, Ser-63 to Pro-72, Pro-87 to Arg-100, |
| 2806 | 2807 | 2808 |
| 1328 - 663 | 1758 - 622 | 1032 - 571 |
| 631 | 632 | 633 |
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| 50354: 1, S0444: 1, 50350: 1, H0729: 1, H0728: 1, H0734: 1, H0619: 1, H0549: 1, H0627: 1, H0587: 1, H0023: 1, T0010: 1, H0039: 1, H0674: 1, H0494: 1, S0015: 1, H0647: 1, S0210: 1, L0763: 1, L0752: 1, L0763: 1, L0753: 1, L0782: 1, L0775: 1, L0782: 1, L0783: 1, L0791: 1, L0793: 1, H0669: 1, H0658: 1, H0669: 1, S0013: 1, L0751: 1, L0605: 1, L0751: 1, L0605: 1, L0751: 1, L0605: 1, L0751: 1, L0605: 1, | L0803: 4, L0777: 4, L0758: 4, L0804: 3, L0659: 3, L0752: 3, S0408: 2, L0717: 2, L0598: 2, L0770: 2, |
|---|---|
| Pro-102 to Gly-107. S0354: 1, S0444: S0360: 1, H0729: H0728: 1, H0734: H0619: 1, H0549: H0427: 1, H0549: H0023: 1, T0010: H0039: 1, H0674: H0135: 1, H0674: H0135: 1, H0674: H0647: 1, S0210: L0763: 1, L0800: L0763: 1, L0769: L0782: 1, L0783: L0782: 1, L0783: L0782: 1, L0783: L0791: 1, L0783: L0528: 1, H0658: H0660: 1, S0013: S0037: 1, L0659: L0785: 1, H0658: H0660: 1, S0013: S0037: 1, L0659: L0785: 1, L0659: L0785: 1, L0659: L0785: 1, H0658: L0785: 1, H0658: L0785: 1, H0658: L0785: 1, L0605: L0785: 1, L0605: L0785: 1, L0605: L0785: 1, L0605: L0785: 1, L0599: | L0758 L0758 L0659 S0408 L0598 |
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| L0662: 2, L0661: 2, | L0657: 2, L0526: 2, | L0664: 2, H0659: 2, | H0648: 2, L0748: 2, | L0751: 2, L0749: 2, | L0779: 2, S0040: 1, | H0713: 1, S0356: 1, | S0442: 1, S0360: 1, | H0393: 1, H0351: 1, | H0441: 1, H0486: 1, | H0581: 1, H0123: 1, | H0050: 1, S0051: 1, | H0673: 1, S0438: 1, | S0144: 1, L0520: 1, | L0763: 1, L0371: 1, | _0800: 1, L0764: 1, | .0773: 1, L0649: 1, | .0381: 1, L0774: 1, | - | .0809: 1, L0530: 1, | L0788: 1, L0666: 1, | H0521: 1, H0555: 1, | S0032: 1, L0740: 1, | .0745: 1, L0750: 1, | .0756: 1, L0757: 1, | .0591: 1, L0581: 1 and | H0506: 1. | L0766: 6, L0804: 5, |
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| | | 2p24 |
| L0748: 5, L0666: 4, L0663: 4, L0634: 3, L0740: 3, H0445: 3, H0318: 2, H0046: 2, H0615: 2, H0628: 2, L0761: 2, L0775: 2, L0665: 2, H0658: 2, H0583: 1, H0656: 1, S0001: 1, H0637: 1, L0638: 1, L0649: 1, L0627: 1, L0647: 1, L0527: 1, L0647: 1, L0664: 1, S0052: 1, S0428: 1, H0682: 1, H0660: 1, H0555: 1 and L0751: 1. | L0766: 2, L0748: 2, S0116: 1, L0005: 1, H0615: 1, H0529: 1, L0792: 1 and H0521: 1. | Cys-1 to Arg-6, L0439: 9, H0519: 6, Thr-84 to Thr-97, L0665: 5, H0547: 5, Arg-131 to Trp-136, L0755: 5, S0434: 5, Ser-155 to Gly-160, H0529: 4, L0659: 4, Thr-187 to Glu-201. S0358: 3, S0010: 3, L0731: 3, L0599: 3, L0595: 3, H0422: 3, H0657: 2, H0581: 2, |
| | Phe-3 to Ala-23. | Cys-1 to Arg-6, L0439: 9, H0519: (Thr-84 to Thr-97, L0665: 5, H0547: 5, Arg-131 to Trp-136, L0755: 5, S0434: 5, Ser-155 to Gly-160, H0529: 4, L0659: 4, Thr-187 to Glu-201. S0358: 3, S0010: 3, L0731: 3, L0599: 3, L0595: 3, H0422: 3 H0657: 2, H0581: 2 |
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| H0251: 2, L0471: 2, | H0510: 2, H0031: 2, | L0763: 2, L0646: 2, | L0662: 2, L0775: 2, | L0809: 2, L0647: 2, | H0436: 2, L0754: 2, | L0758: 2, L0759: 2, | L0605: 2, S0424: 2, | H0624: 1, L0615: 1, | H0341: 1, H0662: 1, | S0418: 1, L0005: 1, | S0360: 1, S0410: 1, | S0046: 1, H0415: 1, | H0600: 1, H0587: 1, | H0642: 1, H0486: 1, | H0250: 1, H0156: 1, | H0546: 1, H0041: 1, | S6028: 1, H0266: 1, | S0334: 1, S0250: 1, | T0006: 1, L0455: 1, | H0708: 1, H0551: 1, | H0059: 1, H0100: 1, | L0370: 1, H0429: 1, | H0494: 1, S0352: 1, | S0370: 1, S0150: 1, | H0641: 1, L0369: 1, | L0520: 1, L0770: 1, | L0638: 1, L0772: 1, | L0641: 1, L0521: 1, | L0794: 1, L0803: 1, |
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| L0804: 1, L0650: 1, L0654: 1, L0661: 1, L0656: 1, L0526: 1, L0790: 1, L0666: 1, L0565: 1, H0520: 1, H0659: 1, H0670: 1, H0660: 1, H0696: 1, H0704: 1, S0406: 1, H0555: 1, S3014: 1, S0028: 1, L0770: 1, L0779: 1, L0777: 1, L0780: 1, L0592: 1, L0608: 1, L0362: 1, H0665: 1, S0194: 1, H0665: 1, H0423: 1 and L0465: 1. | H0415: 2 | L0747: 8, L0659: 7, L0776: 5, L0770: 4, L0662: 4, L0768: 4, L0775: 4, L0752: 4, L0603: 4, H0556: 3, S0410: 3, L0765: 3, L0439: 3, L0750: 3, S0356: 2, S0408: 2, L0471: 2, H0271: 2, S0440: 2, L0762: 2, L0769: 2, L0372: 2, |
| | Arg-1 to Gly-6. | Ala-4 to Glu-13, Ala-21 to Asp-27, Lys-34 to Asn-40, Asp-91 to Ile-98, Pro-122 to Lys-128, Arg-160 to Gly-165, Glu-203 to Ser-213, Gly-218 to Cys-225, Ser-298 to Lys-304, Glu-307 to Asn-312, Pro-327 to His-333, |
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| L0646: 2, L0764: 2, | L0773: 2, L0766: 2, | L0649: 2, L0655: 2, | .0663: 2, L0664: 2, | H0144: 2, L0565: 2, | H0547: 2, H0690: 2, | H0659: 2, L0602: 2, | S0404: 2, L0754: 2, | L0749: 2, L0777: 2, | L0758: 2, L0596: 2, | H0657: 1, S0001: 1, | H0484: 1, H0638: 1, | S0418: 1, S0444: 1, | .0717: 1, H0333: 1, | H0156: 1, H0052: 1, | 10545: 1, H0012: 1, | H0083: 1, H0687: 1, | H0674: 1, H0090: 1, | H0063: 1, H0264: 1, | H0100: 1, L0434: 1, | • | H0561: 1, S0466: 1, | 10641: 1, H0529: 1, | .0763: 1, L0761: 1, | .0667: 1, L0363: 1, | | .0607: 1, L0807: 1, | .0635: 1, L0783: 1, | .0383: 1, L0809: 1, |
| Thr-363 to Ser-368, I | Arg-375 to Val-383, L | Asp-500 to Leu-505, | Arg-602 to Asp-608, L0663: 2, | Glu-722 to Ser-734, F | Glu-739 to Val-744, H0547: 2, H0690: 2, | Glu-746 to His-751, | Leu-778 to Phe-784, S | Pro-790 to Gly-795, [| Ala-797 to Thr-807, L | Tyr-812 to Tyr-821. | <u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u> | <u> </u> | <u> </u> | <u> </u> | | <u> </u> | <u>, , , , , , , , , , , , , , , , , , , </u> | <u> </u> | <u>.</u> | | <u>+14</u> | <u> </u> | | | | | <u>-</u> | |
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| 0666.1 H0658.1 | H0670: 1, H0648: | H0521: 1, S0406: 1 | L0748: 1, L0731: 1 | L0593: 1, L0595: | S0026: 1, S0276: 1 and | H0422: 1. | S0410: 8, H0620: 5 | H0012: 2, S0040: | S0358: 1, S0132: 1 | H0486: 1, H0706: | H0031: 1, H0628: | H0316: 1, S0036: 1 | H0090: 1, H0038: | H0131: 1, S0144: | L0774: 1, L0789: | L0666: 1, H0144: | L0438: 1, H0435: | H0672: 1, S0328: 1 | H0539: 1, L0731: 1 | S0436: 1 and H0665 | L0766: 4, L0758: 4, | L0773: 3, L0748: 3, | L0751: 3, L0731: 3 | L0759: 3, H0171: 2, | H0013: 2, H0644: 2, | | L0805: 2, L0659: 2, | L0666: 2, L0665: | L0754: 2, L0779: |
| 1 | | <u></u> | | | | | Gly-1 to Arg-6, | 1, | | | | | | | | | | | | | Cys-18 to Lys-24, | Gly-57 to Gly-63, | Lys-72 to Ile-81, | Cys-88 to Glu-93, | Gly-97 to Glu-116, | Thr-121 to Val-129, | Lys-137 to Lys-150, | Thr-156 to Asp-161, L0666: 2, L0665: 2, | Gly-177 to Leu-182, L0754: 2, L0779: 2, |
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| S6024: 1, S0212: 1, S0354: 1, S0046: 1, T0039: 1, H0599: 1, H0575: 1, H0036: 1, T0110: 1, H0046: 1, H0050: 1, L0471: 1, H0355: 1, H0271: 1, H0687: 1, H0271: 1, H0211: 1, H0264: 1, H0211: 1, H0264: 1, L0637: 1, L0627: 1, L0645: 1, L0774: 1, L0633: 1, L0666: 1, L0633: 1, L0666: 1, H0435: 1, H0521: 1, H0648: 1, H0521: 1, | 20749: 1, L0750: 1, 20752: 1 and L0596: 1. | L0471: 1, H0617: 1, L0761: 1, L0768: 1, H0658: 1, L0754: 1 and L0779: 1. | AR060: 4, AR089: 2, AR061: 1, AR096: 1, AR033: 0, AR039: 0, AR053: 0, AR052: 0 |
| Glu-213 to Leu-229, S6024: 1, S0212: Asp-275 to Arg-281, S0354: 1, S0046. Asp-287 to Trp-299, T0039: 1, H0599: Lys-302 to Arg-316, H0575: 1, H0036: Leu-338 to Ser-343. T0110: 1, H0046: H0050: 1, L0471: H0687: 1, H0573: H0687: 1, H0272: H0694: 1, S0002: L0637: 1, L0648: L0645: 1, L0764: L0653: 1, L0664: L0645: 1, L0664: L0645: 1, L0664: L0645: 1, L0664: L0648: 1, H0501: | | Pro-33 to Pro-40, Pro-47 to Met-56. | |
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| L0596: 7, H0622: 5, | L0747: 5, H0046: 4, | L0372: 4, L0764: 3, | L0662: 3, L0657: 3, | L0783: 3, L0663: 3, | L0752: 3, H0662: 2, | S0356: 2, H0040: 2, | H0538: 2, L0646: 2, | L0771: 2, L0774: 2, | L0805: 2, L0809: 2, | L0666: 2, L0665: 2, | L0748: 2, L0751: 2, | L0777: 2, L0608: 2, | H0624: 1, H0686: 1, | H0295: 1, H0241: 1, | S0418: 1, S0358: 1, | S0376: 1, S0360: 1, | S0132: 1, H0642: 1, | H0590: 1, H0150: 1, | H0620: 1, H0023: 1, | H0356: 1, H0424: 1, | H0213: 1, H0617: 1, | H0169: 1, H0634: 1, | H0063: 1, T0067: 1, | H0488: 1, H0334: 1, | S0370: 1, S0440: 1, | H0652: 1, L0645: 1, | L0773: 1, L0648: 1, | L0806: 1, L0776: 1, |
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| | S0374: 1, H0689: 1, | H0666: 1, H0478: 1, | .0779: 1, S0436: 1, | H0506: 1 and H0712: 1. | AR096: 10, AR089: | 10, AR060: 7, AR104: | 6, AR033: 5, AR053: | | L0803: 9, H0648: 5, | 1046: 3, L0805: 3, | L0731: 3, S0444: 2, | S0360: 2, S0476: 2, |)597: 2, H0412: 2, | L0764: 2, L0809: 2, | H0670: 2, L0740: 2, | .0747: 2, L0756: 2, | 777: 2, S0040: 1, | T0049: 1, S0420: 1, | 80358: 1, 80376: 1, | H0580: 1, L0152: 1, | S0045: 1, S0278: 1, | 0261: 1, S0280: 1, | H0618: 1, H0012: 1, | H0266: 1, H0488: 1, | H0268: 1, S0144: 1, | S0344: 1, S0426: 1, | L0638: 1, L0646: 1, |
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| | Arg-37 to Ser-44, Leu-68 to Lys-73, Val-77 to Lys-84, Glu-98 to Lys-110. |
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| S0408: 1, H0411: 1, | H0298: 1, L0622: 1, | i, L0021: 1, | S0049: 1, H0052: 1, | 1, H0597: 1, | 7 | 1, H0594: 1, | 1, H0606: 1, | 1, S0464: 1, | 1, H0652: 1, | 1, L0763: 1, | : | | | 1, L0541: 1, | ī, | _ | 1, H0658: 1, | H0660: 1, H0648: 1, | | 1, L0748: 1, | 1, L0756: 1, | .0780: 1, L0758: 1, | 1, L0462: 1 and | .; - | H0545: 3, H0046: 3, | L0763: 3, L0783: 3, | 2, L0769: 2, | 2, L0809: 2, | 2, S0126: 2, |
| S0408: | H0298: | T0040: 1, | 80049: | H0263: | H0620: | T0163: | H0252: | H0163: | 80438: | L0598: 1 | L0773: 1 | 10629: | T0659: | L0545: | L0788: | H0144: | H0682: | H0660: | 80330: | 80027: 1, | L0754: 1 | L0780: | L0759: 1 | H0352: | Arg-1 to Ala-7, H0545 | 103, | Glu-109 to Asp-115, S0358: 2, L0769: 2 | Leu-141 to Glu-146, L0774: 2, L0809: 2, | Glu-172 to Arg-180. H0547: 2, S0126: 2, |
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| H0660: 2, H0672: 2, S0031: 2, L0588: 2, H0624: 1, H0170: 1, H0295: 1, H0586: 1, H0652: 1, S0356: 1, H0652: 1, S0356: 1, H0662: 1, S0356: 1, H0637: 1, H0650: 1, H0637: 1, H0650: 1, H0611: 1, H0650: 1, H0611: 1, H0646: 1, H0670: 1, L0521: 1, L0528: 1, L0528: 1, L0666: 1, L0665: 1, H0144: 1, S0374: 1, H0144: 1, S0374: 1, L0777: 1, L0779: 1, L0777: 1, L0779: 1, L0777: 1, H0653: 1, L0777: 1, H0653: 1, L0777: 1, H0653: 1, S0028: 1, L0777: 1, L0777: 1, H0653: 1, S0028: 1, L0777: | S0007: 5, S0010: 1, H0617: 1 and L0769: 1. | Pro-2 to Asp-14, AR089: 31, AR053: Ser-71 to Thr-76, 27, AR096: 26, AR052: Ser-110 to Trp-119. 25, AR039: 16, AR060: |
| | Pro-20 to Phe-32, Pro-52 to Phe-59, Lys-68 to His-74. | Pro-2 to Asp-14, Ser-71 to Thr-76, Ser-110 to Trp-119. |
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| | 179 - 400 | 3 - 431 |
| | 647 | 648 |
| | 1034320 | 1034471 |
| | HEBAE89 | HKDBF43 |

| 15, AR033: 13, AR104: 13, AR055: 6, AR061: 4 L0749: 4, L0471: 3, L0748: 3, L0777: 3, H0545: 2, H0561: 2, L0770: 2, L0769: 2, L0752: 2, L0779: 2, L0752: 2, L0779: 2, H0657: 1, H0663: 1, H0125: 1, S0358: 1, H0328: 1, H0411: 1, L0586: 1, H0013: 1, H0356: 1, H0013: 1, H0356: 1, H0563: 1, H0356: 1, H0683: 1, H0573: 1, L0804: 1, L0774: 1, L0776: 1, L0659: 1, H0648: 1, H0659: 1, H0648: 1, H0659: 1, H0648: 1, H0659: 1, H0648: 1, H0672: 1, S0330: 1, S3014: 1, L0731: 1, | L0666: 47, H0046: 20, H0672: 13, L0754: 11, S0003: 9, L0766: 6, L0664: 6, L0744: 5, L0439: 5, L0777: 5, |
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| 15, AR033 13, AR055 4 10749: 4, 10748: 3, 1 10770: 2, 1 10770: 2, 1 10752: 2, 1 10752: 2, 1 10752: 1, 1 10333: 1, 1 10333: 1, 1 10774: 1, 1 10659: 1, 1 | L0666 H0672: S0003: L0664: L0439: |
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| A .110CEO. A | .0599: 4, S0214: 3, | .0637: 3, L0521: 3, | ,0804: 3, L0438: 3, | H0435: 3, L0752: 3, | S0408: 2, S0046: 2, | H0497: 2, H0590: 2, | 10050: 2, H0644: 2, | 10264: 2, T0041: 2, | 30002: 2, S0426: 2, | .0770: 2, L0794: 2, | .0775: 2, L0665: 2, | H0547: 2, S0126: 2, | 10659: 2, S0152: 2, | H0478: 2, L0786: 2, | .0779: 2, L0731: 2, | J0759: 2, L0608: 2, | 10423: 2, H0624: 1 | H0556: 1, H0686: 1 | S0342: 1, S0114: 1, | S0132: 1, H0645: 1 | S0222: 1, H0601: 1, | H0270: 1, T0114: 1 | H0013: 1, L0021: 1 | H0599: 1, H0575: 1 | H0318: 1, L0738: 1 | H0327: 1, H0014: 1 | H0373: 1, S0051: 1 | H0021: 1, H0316: 1 | H0040: 1, H0616: 1 |
| 1 | 33 | 13 | <u>.</u> | H | <u>80</u> | H | H | Ħ | SO | 3 | <u>3</u> | ĬĬ · | 茁 | Ï | 3 | <u> </u> | H | Ĭ | SC | <u>S</u> | SC | H | Ĭ | Ī | 耳 | Ē | 耳 | H | 耳 |
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| H0100: 1, H0625: 1, | H0561: 1, S0440: 1, H0641: 1, S0144: 1, | <u> </u> | L0769: 1, L0646: 1, | L0771: 1, L0662: 1, | L0803: 1, L0774: 1, | L0651: 1, L0805: 1, | L0776: 1, L0659: 1, | L0783: 1, L0791: 1, | L0792: 1, H0519: 1, | H0684: 1, H0670: 1, | H0660: 1, H0648: 1, | S0328: 1, H0518: 1, | H0521: 1, H0522: 1, | • | H0436: 1, L0758: 1, | H0445: 1, L0684: 1, | H0595: 1, L0588: 1, | S0026: 1, H0543: 1, | H0422: 1 and H0506: 1. | AR055: 8, AR060: 6, | AR052: 6, AR089: 5, | AR096: 5, AR053: 5, | AR033: 4, AR061: 3, | AR104: 2, AR039: 2 | L0766: 7, H0591: 3, | H0040: 3, L0794: 3, | H0689: 3, L0752: 3, |
| | | | | | | | | | • | | , | | | | | | | | | Val-39 to Ala-45. | | | | | | | |
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| H0581: 2, H0059: 2, | L0771: 2, L0809: 2, L0665: 2, L0749: 2, | H0637: 1, H0497: 1, | T0109: 1, H0036: 1, | H0318: 1, H0039: 1, | H0181: 1, H0038: 1, | H0634: 1, L0637: 1, | L0662: 1, L0649: 1, | L0388: 1, L0776: 1, | L0655: 1, L0658: 1, | L0788: 1, H0520: 1, | H0690: 1, H0670: 1, | H0672: 1, L0751: 1. | 1.0747.1.1.0750.1 | 1 0777 1 1 0758 1 and | 1.0361: 1. | H0615: 2 | | AR039: 2, AR096: 1, | | | AR055: 0, AR053: 0 | L0757: 3, L0594: 2, | S0212: 1, L0527: 1, | H0547: 1, S0328: 1 and | L0756: 1. | S0278: 5, H0580: 2, | H0575: 2, H0050: 2, | Ser-113 to Ala-119, S0344: 2, L0764: 2, |
| | | | | | | | | | | | | | | | | Thr-11 to Asn-18, | Gly-25 to Glu-30. | Pro-21 to Asn-31, | Arg-158 to Lys-170, AR089: | Thr-194 to Leu-200. AR033: | | | | | | His-55 to Arg-63, | Glu-96 to Val-109, | Ser-113 to Ala-119, |
| | | | | | | | | | | | | | | | | 2826 |) | 2827 | | | | | | | | 2828 | | |
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| H0672: 2, T0002: 1, S0134: 1, H0656: 1, S0116: 1, H0706: 1, S0010: 1, H0581: 1, H0031: 1, H0644: 1, H0090: 1, H0087: 1, T0041: 1, S0142: 1, S0002: 1, S0426: 1, L0770: 1, L0667: 1, L0779: 1, L0803: 1, L0748: 1, L0749: 1, S0260: 1 and H0542: 1. | H0013: 2 and S0126: 1. | L0754: 6, L0758: 6, L0598: 3, L0756: 3, H0716: 2, S0358: 2, S0360: 2, S0007: 2, H0318: 2, H0652: 2, L0471: 2, H0615: 2, L0794: 2, L0766: 2, L0750: 2, L0768: 2, H0663: 1, H0658: 1, H0664: 1, H0638: 1, H0734: 1, H0741: 1, H0734: 1, H0415: 1, H0497: 1, H0415: 1, H0497: 1, H0574: 1, |
|--|------------------------|--|
| Lys-140 to Tyr-150, H0672: 2, T0002: 1 Glu-157 to Ser-172, S0134: 1, H0656: 1 Gly-174 to Asn-185, S0116: 1, H0706: 1 Arg-223 to Pro-245, S0010: 1, H0581: 1 Leu-264 to Asp-272, H0375: 1, H0644: 1 H0031: 1, H0644: 1 H0090: 1, H0087: 1 T0041: 1, S0142: 1, S0002: 1, S0426: 1, L0779: 1, L0667: 1 L0779: 1, L0803: 1 L0748: 1, L0749: 1 S0260: 1 and H054: | | Gln-1 to Asp-6, Gly-11 to Ser-16, Pro-21 to Leu-41, Ser-44 to Pro-54. |
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| S0010: 1, S0474: 1, H0581: 1, H0050: 1. | S0214: 1, H0030: 1, | H0032: 1, H0113: 1, | H0616: 1, T0067: 1, | H0488: 1, H0059: 1, | S0438: 1, H0538: 1, | L0803: 1, L0805: 1, | L0776: 1, L0655: 1, | L0659: 1, L0809: 1, | L5623: 1, L0788: 1, | L0791: 1, L0793: 1, | L0666: 1, H0520: 1, | H0519: 1, H0684: 1, | H0670: 1, H0521: 1, | L0747: 1, L0749: 1, | L0752: 1, L0759: 1, | S0434: 1, L0596: 1, | L0592: 1, L0362: 1 and | H0423: 1. | AR061: 28, AR033: | ., 25, AR104: 22, AR055: | 22, AR060: 19, AR089: | 19, AR052: 12, AR039: | 11, AR096: 11, AR053: | L0751: 7, L0769: 6, | L0750: 5, L0752: 5, | H0052: 4, L0771: 4, | L0775: 4, L0758: 4, |
| <u>(7) 1</u> 2 | | <u></u> | <u>, 11</u> | | <u> </u> | | | | | | | • | | | | | | | Val-10 to Lys-17, | Ċ | Pro-148 to Tyr-167. | • | | | | | |
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| H0556: 3, L0665: 3, | H0486: 2, S0010: 2, | H0620: 2, T0006: 2, | H0181: 2, H0494: 2, | .0774: 2, L0375: 2, | .0776: 2, L0512: 2, | J0659: 2, H0555: 2, | S0206: 2, L0740: 2, | 47: 2, L0596: 2, | 88: 2, S0276: 2, | 524: 1, S0402: 1, | T0049: 1, H0341: 1, | 562: 1, S0358: 1, | 76: 1, S0360: 1, | S0045: 1, S0476: 1, | J0717: 1, H0351: 1, | S0222: 1, H0455: 1, | 70114: 1, L0021: 1, | H0618: 1, T0048: 1, | H0318: 1, L0109: 1, | H0309: 1, H0544: 1, | 10546: 1, H0545: 1, | H0009: 1, H0123: 1, | .0471: 1, H0424: 1, | H0031: 1, H0628: 1, | 17: 1, H0063: 1, | H0059: 1, H0100: 1, | H0625: 1, H0633: 1, | H0646: 1, H0517: 1, | .0770: 1, L0764: 1, |
| HO | 70H | HO | HO | 107 | <u>1.07</u> | 106 | 805 | <u>10</u> | 1.05 |) HO | TOOT |)OH | 803 | 008 | 107 | 802 | TOI | HO | H03 | H03 | HO | HO | 10 <u>1</u> |)OH | HO | HOC | HOE | HOE | 1.07 |
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| .0766: 1, L0655: 1, | .0657: 1, L0526: 1, | L0783: 1, L0809: 1, | 1544: 1, L0529: 1, | 0664: 1, S0428: 1, | H0593: 1, S0126: 1, | H0682: 1, H0659: 1. | U0670: 1, T10648: 1 | JOVO. 1, 1100-10. 1, | 0611: 1, S0432: 1, | .0756: 1, L0757: 1, | S0436: 1 and S0194: 1. | AR052: 26, AR033: | , AR104: 15, AR053: | I, AR060: 12, AR055: | 12, AR089: 11, AR096: | 8, AR061: 4, AR039: | | H0360: 14, S0408: 5, | .0774: 5, L0749: 5, | ,0775: 4, H0648: 4, | ,0623: 3, H0373: 3, | J0520: 3, S0328: 3, | S0406: 3, S0360: 2, | S0222: 2, H0575: 2, | 0082; 2, L0471; 2, | H0494; 2, L0763; 2, | 0769: 2, L0764: 2, | .0517: 2, L0809: 2, | H0684: 2, L0747: 2, | S0031: 2, L0581: 2, |
| <u> </u> | <u>3</u> | <u> </u> | <u> </u> | <u> </u> | I | LĪ | | Ġ. | <u> </u> | <u> </u> | Š | Asp-64 to Phe-69, A | Thr-104 to Phe-120. 22 | | | <u>∞</u> | -63 | | <u></u> | _= | _=! | <u></u> | S | S | | <u> </u> | | | <u> </u> | |
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| · | L0757: 1, L0758: 1, L0759: 1, S0434: 1, L0589: 1, S0192: 1, H0422: 1 and S0424: 1. | | | | |
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| *** | S0378: 1, S0404: 1, S0028: 1, L0779: 1, | | | | |
| _ | H0670: 1, H0672: 1, | | | | |
| | H0690: 1, H0658: 1, | | | | |
| | L0788: 1, H0689: 1, | | ì | | |
| | L0526: 1, L0782: 1, | | | | |
| | L0522: 1, L0659: 1, | | | | |
| | L0768: 1, L5574: 1, | | | | |
| , | L0662: 1, L0767: 1, | | | | |
| | L0772: 1, L0521: 1, | | | | |
| | S0440: 1, S0144: 1, | | | | |
| | H0560: 1, S0438: 1, | | | • | |
| | H0412: 1, H0202: 1, | | | | |
| - | H0615: 1, S0036: 1, | | | | |
| | L0163: 1, S0051: 1, | | | | |
| | H0320: 1, H0014: 1, | - | | | |
| | H0156: 1, H0230: 1, | | | | |
| | H0393: 1, T0060: 1, | | | | |
| _ | \$0046: 1, \$0132: 1, | | | | |
| | H0722: 1, S0045: 1, | | | | |
| _ | S0410: 1, H0580: 1, | | | | |
| | S0358: 1, S0444: 1, | | | - | |
| | L0481: 1, H0638: 1, | | • | | |
| | H0657: 1, S0116: 1, | | | | |
| | H0685: 1, T0049: 1, | | | | |
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| H0521: 68, H0090: 12, 10666: 10, L0748: 10, | .0775: 9, H0522: 9, | H0638: 8, L0771: 8, | L0659: 8, H0591: 7, | L0747: 7, L0770: 5, | .0664: 5, L0754: 5, | H0580: 4, H0486: 4, | H0622: 4, H0644: 4, | H0551: 4, H0494: 4, | J0655: 4, S0374: 4, | L0755: 4, L0759: 4, | S0132: 3, H0013: 3, | H0421: 3, H0553: 3, | H0616: 3, H0641: 3, | S0142: 3, L0766: 3, | L0663: 3, L0665: 3, | H0547: 3, L0756: 3, | L0779: 3, L0752: 3, | S0358: 2, S0376: 2, | S0444: 2, S0360: 2, | S0278: 2, H0431: 2, | H0586: 2, H0575: 2, | H0318: 2, H0581: 2, | H0457: 2, S0003: 2, | H0688: 2, H0039: 2, | H0264: 2, H0529: 2, | L0763: 2, L0769: 2, | L0646: 2, L0803: 2, | L0774: 2, H0701: 2, |
| His-8 to Gly-18, Phe-25 to Ala-39, I | | Gln-114 to Gly-121, | | | | | | | | | | | | | | | | | | | | | | | | | , | |
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| S0380: 2, H0555: 2, | L0439: 2, L0740: 2, | L0777: 2, L0731: 2, | H0445: 2, L0599: 2, | L0608: 2, H0506: 2, | S0040: 1, H0650: 1, | S0116: 1, S0212: 1, | S0356: 1, S0354: 1, | S0468: 1, S0045: 1, | H0619: 1, S6022: 1, | H0370: 1, H0392: 1, | H0497: 1, H0642: 1, | T0114: 1, H0427: 1, | H0042: 1, H0251: 1, | H0596: 1, H0046: 1, | H0086: 1, H0057: 1, | H0083: 1, H0375: 1, | T0023: 1, H0031: 1, | L0055: 1, H0598: 1, | H0135: 1, H0038: 1, | H0040: 1, H0412: 1, | H0056: 1, T0042: 1, | S0370: 1, H0509: 1, | S0144: 1, S0002: 1, | S0426: 1, L0796: 1, | L0772: 1, L0764: 1, | L0765: 1, L0662: 1, | L0768: 1, L0389: 1, | L0804: 1, L0651: 1, | L0636: 1, L0647: 1, |
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| L0791: 1, H0702: 1, H0693: 1, H0593: 1, S0122: 1, H0689: 1, H0659: 1, H0658: 1, S0328: 1, H0479: 1, S0152: 1, H0479: 1, S0102: 1, L0749: 1, L0749: 1, L0744: 1, L0749: 1, L0757: 1, S0031: 1, H0707: 1, L0597: 1, L0605: 1, H0667: 1, S0242: 1, H0643: 1, H0423: 1, | H0618: 3, L0740: 2, L0596: 2, L0597: 2, S0354: 1, H0580: 1, H0042: 1, H0172: 1, H0615: 1, H0412: 1, S0386: 1, L0648: 1, L0662: 1, L0774: 1, L0657: 1, L0809: 1, L0779: 1, L0809: 1, L0779: 1, L0758: 1 and H0445 | S0136: 33, L0747: 16 H0144: 14, L0731: 14 L0752: 13, S0422: 12, L0740: 12, L0754: 11, |
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| | | Cys-1 to Glu-6, Asp-52 to Asp-65, Lys-82 to Pro-88, Phe-111 to Ala-123. |
| | | Cys-1 to Glu-6, Asp-52 to Asp- Lys-82 to Pro-8 Phe-111 to Ala |
| | | Cys-Asp- Lys-Phe- |
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| L0750: 11, H0038: 10, | S0026: 10, H0556: 9, | S0360: 9, L0665: 9, | H0521: 9, H0616: 8, | L0520: 8, L0776: 8, | L0664: 8, L0757: 8, | H0009: 7, S0003: 7, | L0655: 7, S0406: 7, | L0748: 7, H0170: 6, | L0471: 6, H0620: 6, | S0440: 6, L0518: 6, | L0749: 6, L0608: 6, | H0341: 5, S0442: 5, | H0351: 5, H0370: 5, | H0013: 5, H0090: 5, | H0551: 5, L0598: 5, | L0375: 5, L0659: 5, | S0126: 5, H0682: 5, | H0648: 5, L0751: 5, | H0543: 5, H0423: 5, | L0005: 4, S0444: 4, | S0007: 4, H0163: 4, | H0494: 4, H0529: 4, | L0769: 4, L0521: 4, | L0775: 4, L0666: 4, | H0659: 4, H0670: 4, | S0027: 4, L0758: 4, | H0542: 4, H0657: 3, | 80212: 3, 80354: 3, | S0408: 3, H0580: 3, |
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| S0476: 3, S0278: 3, | S0222: 3, H0486: 3, | H0687: 3, H0674: 3, | S0448: 3, L0646: 3, | L0662: 3, L0649: 3, | L0774: 3, L0657: 3, | S0374: 3, H0547: 3, | S0328: 3, S3014: 3, | H0444: 3, H0171: 2, | H0265: 2, T0002: 2, | S0040: 2, H0716: 2, | H0295: 2, T0049: 2, | S0218: 2, H0656: 2, | S0116: 2, H0638: 2, | S0418: 2, S0420: 2, | S0358: 2, S0045: 2, | H0369; 2, H0431; 2, | H0415: 2, H0592: 2, | H0586: 2, H0574: 2, | T0109: 2, H0250: 2, | S0280: 2, S0010: 2, | H0052: 2, H0050: 2, | H0012: 2, H0051: 2, | S0051: 2, H0266: 2, | H0288: 2, S0214: 2, | H0252: 2, H0428: 2, | H0039: 2, H0673: 2, | H0135: 2, H0063: 2, | H0412: 2, H0623: 2, | S0150: 2, H0207: 2, |
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| H0641: 2, S0142: 2, | S0344: 2, L0770: 2, | L0771: 2, L0766: 2, | L0558: 2, L0519: 2, | H0520: 2, H0684: 2, | H0435: 2, H0710: 2, | H0696: 2, H0704: 2, | H0134: 2, H0436: 2, | S0028: 2, L0756: 2, | L0753: 2, H0445: 2, | S0434: 2, L0588: 2, | H0422: 2, S0470: 1, | H0686: 1, H0685: 1, | S0342: 1, H0294: 1, | S0114: 1, S0134: 1, | H0583: 1, H0484: 1, | H0663: 1, H0241: 1, | H0176: 1, S0356: 1, | T0008: 1, H0637: 1, | H0152: 1, S0046: 1, | H0619: 1, H0645: 1, | H0411: 1, H0438: 1, | H0600: 1, H0497: 1, | H0642: 1, H0331: 1, | T0039: 1, H0635: 1, | H0427: 1, H0156: 1, | H0097: 1, H0575: 1, | H0706: 1, H0390: 1, | H0581: 1, H0421: 1, | H0434: 1, H0196: 1, |
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| H0309: 1, H0596: 1, L0040: 1, H0597: 1, H0327: 1, H0530: 1, H0544: 1, H0545: 1, H0046: 1, N0006: 1, H0570: 1, H0569: 1, H0172: 1, H0123: 1, | 1, H0373: 1 1, H0510: 1 1, H0267: 1 1, H0328: 1 1, H0622: 1 1, T0006: 1 | 10316: 1, H0591: 10040: 1, H0634: 10413: 1, H0100: F0041: 1, H0334: | 10560: 1, H0625: 1, S0438: 1, H0647: 1, S0144: 1, H0538: 1, UNKWN: 1, L0369 L0762: 1, L0637: 1, | .0761: 1, L0373: .0764: 1, L0773: .0648: 1, L0626: .0767: 1, L0794: | .0386: 1, L0378: 1, 20378: 1, 20805: 1, 20829: 1, 20382: 1, 20809: 1, 20830: |
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| L0789: 1, L0663: 1, S0428: 1, H0701: 1, L0565: 1, H0519: 1, H0593: 1, H0689: 1, H0658: 1, H0672: 1, S0330: 1, H0539: 1, S0378: 1, S0380: 1, | H0709: 1, S0152: 1, S0332: 1, S0044: 1, S0188: 1, H0187: 1, L0356: 1, H0478: 1, | H0627: 1, H0631: 1, L0611: 1, S0206: 1, | S0032: 1, L0439: 1, L0786: 1, H0343: 1, | L0592: 1, L0485: 1, | H0668: 1, H0136: 1, | S0194: 1, S0196: 1, | S0460: 1, H0506: 1 and H0008: 1 | L0747: 5, H0424: 4, | H0617: 4, L0769: 3, | L0526: 3, S3014: 3, | L0748: 3, L0750: 3, | H0661: 2, H0663: 2, | H0392: 2, H0156: 2, | H0123: 2, H0033: 2, | H0213: 2, H0059: 2, | L0763: 2, L0542: 2, | H0519: 2, L0751: 2, |
| | | | | | | | | Gly-1 to Thr-11. | | | | | | | | | |
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| | Thr-1 to Gly-8, Phe-49 to Leu-67, Gln-142 to Gly-150, Pro-274 to Leu-282, |
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| L0665: 3, S0328: 3, | H0518: 3, H0423: 3, | S0358: 2, H0622: 2, | H0641: 2, L0763: 2, | L0663: 2, L0664: 2, | H0689: 2, H0522: 2, | H0555: 2, H0422: 2, | H0624: 1, H0585: 1, | H0657: 1, H0671: 1, | H0402: 1, S0376: 1, | H0580: 1, S0278: 1, | H0549: 1, H0602: 1, | H0586: 1, H0069: 1, | H0635: 1, H0581: 1, | H0546: 1, H0510: 1, | | H0644: 1, H0606: 1, | H0090: 1, H0634: 1, | H0551: 1, H0488: 1, | H0509: 1, L0640: 1, | L0800: 1, L0662: 1, | L0804: 1, L0607: 1, | L0657: 1, L0809: 1, | L0790: 1, L0666: 1, | H0593: 1, H0684: 1, | H0672: 1, H0710: 1, | S0434: 1, S0436: 1 and | S0196: 1. | |
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| 150100, 168470, | 190070, | 200990, | 103950 | 112410, | 150100, | 168470, | 190070, | 190070, | 200990, | 960209 | | | | | | | | | | | | | | | | |
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| - | • | | 1 0778 34 1 0777 15 | S0438: 11, S0192: 11, | L0608: 7, H0331: 6, | H0574: 6, L0771: 6, | S0027: 6, L0756: 6, | H0632: 5, L0731: 5, | S0360: 4, H0427: 4, | L0662: 4, L0744: 4, | L0779: 4, L0757: 4, | S0242: 4, S0354: 3, | S0408: 3, H0494: 3, | H0509: 3, L0770: 3, | L0775: 3, L0809: 3, | L0666: 3, H0519: 3, | H0648: 3, S3014: 3, | S0028: 3, L0750: 3, | H0661: 2, S0442: 2, | S0358: 2, S0376: 2, | S0444: 2, H0013: 2, | S0280: 2, H0309: 2, | H0545: 2, H0510: 2, | H0032: 2, H0551: 2, | S0142: 2, S0422: 2, | L0774: 2, L0806: 2, |
| | | | A12 14 to A cm 10 | Ala-14 to Asp-13, Lys-92 to Arg-110. | | | | | | | | | | | • | | | | | | • | | | | | |
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| H0686: 2, T0049: 2, | S0134: 2, S0116: 2, | H0663: 2, H0662: 2, | S0444: 2, S0045: 2, | 046:2 | 278: 2 | 550: 7 | H0156: 2, H0599: 2, | 263: 2 | 012:2 | 314:2 | 039: | 087:7 | 059: 7 | 509: 2 | 641: 2 | 210:2 | L0763: 2, L4497: 2, | 768: 2 | 653: 2 | 527:2 | 144. | 691: 2 | 593: 2 | H0435: 2, H0658: 2, | 330:2 | S0380: 2, L0754: 2, | 756: 2 | 591: 2 | .0599: 2, S0026: 2, |
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| H0667: 2, S0192: 2, H0422: 2, H0506: 2, L0600: 2, H0171: 1, T0002: 1, H0717: 1, H0716: 1, H0295: 1, H0484: 1, H0483: 1, H0484: 1, H0483: 1, S0376: 1, S0442: 1, S0376: 1, H0675: 1, H0637: 1, S0007: 1, H0645: 1, H0415: 1, H0645: 1, H0415: 1, H0641: 1, H0600: 1, H0644: 1, H0427: 1, S0280: 1, H0427: 1, S0280: 1, H0998: 1, H0042: 1, T0082: 1, H0705: 1, H0505: 1, H0309: 1, H0505: 1, H0313: 1, H0515: 1, H0313: 1, H0515: 1, | H0071: 1, H0510: 1, H0375: 1, S0318: 1, S0022: 1, H0252: 1, H0688: 1, H0644: 1, H0628: 1, L0055: 1, |
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| H0627: 1, L0612: 1, S0206: 1, L0743: 1, L0439: 1, L0751: 1, L0753: 1, L0759: 1, S0260: 1, H0444: 1, L0608: 1, L0593: 1, H0668: 1, H0665: 1, S0242: 1, S0194: 1, S0196: 1, S0424: 1, H0008: 1, H0352: 1 and H0712: 1. | 10662: 7, H0013: 5 10766: 5, L0803: 4, 10655: 4, L0665: 4, 10740: 4, L0731: 4, 10776: 3, L0809: 3, 10776: 3, L0750: 3, 10759: 3, H0543: 3, 10759: 3, H0543: 3, 10759: 3, H0543: 3, 10059: 2, L0470: 2, 10064: 2, L0521: 2, 10651: 2, L0659: 2, 10652: 2, H0659: 2, 10662: 2, H0551: 2, 10602: 2, H0518: 2, 10602: 2, H0518: 2, 10748: 2, L0747: 2, |
| · | Ser-1 to Pro-16, Asn-40 to Gly-46, L0766: 5, L0803: 4, Pro-48 to Arg-53, L0655: 4, L0665: 4, Lys-64 to Pro-72, L0740: 4, L0731: 4, Val-87 to Asp-93, Asp-109 to Tyr-118, L0776: 3, L0809: 3, Glu-157 to Pro-172, H0519: 3, L0750: 3, Pro-178 to Gly-188, L0759: 3, H0543: 3, Glu-252 to Leu-263, H0170: 2, L0470: 2, Thr-266 to Leu-273, H0341: 2, S0360: 2, Glu-326 to Ala-310, H0266: 2, H0551: 2, Glu-324 to Asn-340, L0646: 2, L0521: 2, Glu-344 to Gly-373, L0651: 2, L0659: 2, Glu-383 to Asn-395, L0663: 2, L0669: 2, Val-399 to Glu-414. H0547: 2, H0659: 2, H0522: 2, S0406: 2, L0748: 2, L0747: 2, |
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| .0591: 2. H0542: 2. | H0506: 2, H0171: 1, | H0265: 1, T0002: 1, | H0713: 1, H0125: 1, | 50418: 1, S0358: 1, | F0008: 1, H0351: 1, | 22: 1, H0431: 1, | H0415: 1, H0586: 1, | 27: 1, S0280: 1, | 21: 1, T0082: 1, | S0010: 1, H0581: 1, | 56: 1, L0471: 1, | H0620: 1, H0024: 1, | H0014: 1, H0687: 1, | S0250: 1, H0328: 1, | H0428: 1, H0039: 1, | 53: 1, H0090: 1, | H0591: 1, H0616: 1, | H0379: 1, H0056: 1, | II: 1, H0494: 1, | _0475: 1, S0014: 1, | H0560: 1, L0065: 1, | S0440: 1, H0509: 1, | 10641: 1, S0422: 1, | .0369: 1, L0502: 1, | .0763:1, L0770:1, | .0638: 1, L0761: 1, | .0373: 1, L0773: 1, | .0794: 1, L0381: 1, | .0774: 1, L0805: 1, |
| L059 |)50H | H026 | H071 | S041 | T000 | S022 | H041 | H042 | T007 | S001 | H056 | H062 | H001 | S025 | H042 | H055 | H059 | H037 | T004 | L047 | 950H | S044 | H064 | F036 | L076 | L063 | 1037 | [L079 | 101 |
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| | | | <u></u> | <u> </u> | <u> </u> | <u> </u> | <u></u> | <u>. U 1</u> | <u> </u> | | | | | - | | | Tvr-11 to Val-16, | _ | Leu-82 to Leu-96, | Glu-112 to Gln-120. | | | | | | | | |
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| H0520: 3, H0435: 3 | H0658: 3, H0521: 3 | S0406: 3, L0748: 3, | H0423: 3, S0424: 3, | H0170: 2, H0657: 2, | S0418: 2, S0280: 2, | 10266: 2, H0598: 2, | 10090: 2, H0616: 2, | .0763: 2, L0803: 2, | .0666: 2, L0663: 2, | 10660: 2, H0672: 2, | .0756: 2, L0757: 2, | S0026: 2, H0556: 1 | H0686: 1, H0656: 1, | S0001: 1, H0662: 1, | S0420: 1, S0358: 1 | S0376: 1, S0444: 1, | <u>S</u> | HO. | H0486: 1, H0318: 1 | 10596: 1, T0110: | Ĕ | 出 | H0510: 1, S0250: | S0003: 1, H0428: | H0591: 1, H0634: | H0551: 1, H0560: 1 | | S | .0769: 1, L0761: 1, |
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| | Gln-16 to Ser-24. | |
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| H0040: 3, H0634: 3, | S0386: 3, L0800: 3, | L0662: 3, L0665: 3, | L0438: 3, S0028: 3, | L0740; 3, H0318; 2, | H0544: 2, S0051: 2, | H0615: 2, H0163: 2, | H0494: 2, L0645: 2, | L0649: 2, L0803: 2, | L0804: 2, L0659: 2, | H0547: 2, H0689: 2, | S0380: 2, H0522: 2, | L0743: 2, L0744: 2, | L0749: 2, L0596: 2, | L0366: 2, S0242: 2, | S0114: 1, H0583: 1, | H0650: 1, H0656: 1, | H0341: 1, S0001: 1, | H0483: 1, H0402: 1, | H0638: 1, S0356: 1, | S0354: 1, S0358: 1, | S0408: 1, H0580: 1, | L0103: 1, S0045: 1, | H0640: 1, H0586: 1, | H0360: 1, H0643: 1, | H0486: 1, H0013: 1, | H0036: 1, H0263: 1, | H0546: 1, H0012: 1, | S0050: 1, S0388: 1, | H0399: 1, H0510: 1, |
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| | Glu-53 to Phe-58, Arg-70 to Phe-79, Ile-94 to Val-102, Thr-106 to Thr-118, Glu-139 to Asp-149, Asp-183 to Lys-215. | |
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| .0499: 2, L0804: 2, | .0775: 2, L0806: 2, | .0509: 2, L0607: 2, | , L0493: 2, | .0513: 2, H0690: 2, | , L0777: 2, | .0752: 2, L0759: 2, | ,0600: 2, H0171: 1, | HO713: 1, H0716: 1, | L0002: 1, H0650: 1, | , S0001: 1, | , S0444: 1, | S0408: 1, S0222: 1, | H0486: 1, H0156: 1, | J0021: 1, H0042: 1, | H0253: 1, H0263: 1, | H0544: 1, H0545: 1, | , S0336: 1, | S0214: 1, | H0328: 1, H0615: 1, | , L0483: 1, | H0673: 1, H0124: 1, | H0090: 1, | H0040: 1, H0063: 1, | H0551: 1, T0067: 1, | F0041: 1, H0647: 1, | L0761: 1, | | L0768: 1, | L0381: 1, L0533: 1, |
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| | Pro-19 to Asn-26, His-58 to Pro-63. | Ala-1 to Gly-21, Pro-28 to Gln-35. |
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| H0616: 2, H0658: 2, | S0028: 2, L0742: 2, | H0170: 1, S0116: 1, | H0449: 1, S0418: 1, | S6026: 1, H0550: 1, | - | T0040: 1, H0013: 1, | H0156: 1, T0082: 1, | H0196: 1, H0251: 1, | H0530: 1, H0150: 1, | H0023: 1, H0266: 1, | H0687: 1, H0615: 1, | T0006: 1, H0031: 1, | H0068: 1, H0551: 1, | H0100: 1, T0041: 1, | S0150: 1, H0652: 1, | S0144: 1, H0529: 1, | L0543: 1, H0144: 1, | S0374: 1, H0691: 1, | H0520: 1, H0689: 1, | H0684: 1, H0670: 1, | H0660: 1, H0672: 1, | H0539: 1, S3012: 1, | S0027: 1, L0744: 1, | L0754: 1, L0749: 1, | L0750: 1, L0752: 1, | L0755: 1, L0731: 1, | L0757: 1 and S0194: 1. | H0619: 1, H0013: 1, L0794: 1 and L0788: 1. |
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| H0556: 8, L0758: 7, | .0593: 7, H0542: 7, | L0601: 6, L0747: 5, | H0618: 4, H0620: 4, | H0617: 4, H0494: 4, | L0439: 4, L0751: 4, | S0420: 3, S0046: 3, | H0622; 3, H0087; 3, | L0766: 3, H0690: 3, | H0670: 3, S0328: 3, | L0748: 3, L0754: 3, | L0731: 3, H0543: 3, | H0265: 2, H0650: 2, | H0484: 2, H0255: 2, | S0418: 2, H0549: 2, | H0333: 2, H0024: 2, | H0551: 2, S0150: 2, | L0764: 2, L0662: 2, | L0375: 2, L0663: 2, | L0665: 2, H0660: 2, | H0521: 2, S0146: 2, | L0741: 2, L0779: 2, | L0361: 2, L0603: 2, | H0422: 2, H0170: 1, | S0040: 1, H0295: 1, | H0294: 1, H0657: 1, | H0656: 1, H0341: 1, | S0212: 1, H0661: 1, | S0442: 1, S0354: 1, | S0360: 1, L0717: 1, |
| Leu-32 to Lys-43, | Phe-92 to Arg-98, | 36.1 | _ | Pro-215 to Asn-222. | Len-230 to Asn-235. | | | | | | | | | | | | | | | | | | | | | | | | , |
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| S0278: 1, H0437: | 1, H0438: | H0497 | l, H0101: | H0575 | 1, H0581: 1 | H0052: 1, H0251: | H0204 | H0041: 1 | H0081 | H0083: | H0354: 1, H0266: 1, | H0292 | H0039 | H0553: 1, H0606: | l, H0068: | H0135: 1, H0040: 1 | H0412 | S0038: 1, H0100: 1 | H0280 | H0429: 1, H0561: | S0440: 1, H0641: | S0144: 1, S0210: | L0640: | L0770: 1, L0769: | 1.0761: | L0771: | L0774: | .0655: 1, L0629: | .0658: 1, L0809: 1 |
| 78: 1,] | H0550: 1, | H0592: 1, | H0486: 1, | H0013: 1, | H0253: 1, | H0052: 1, | | H0545: 1, | H0009: 1, | H0014: 1, | 54: 1, | 87: 1, | 84: 1, | 53: 1, | H0166: 1, | 35: 1, | .68: 1, | 38: 1, 1 | 41: 1,] | 129: 1, | 40: 1,] | 4: 1, | 02: 1,] | .0770: 1, 1 | 0637: 1, 1 | 0642: 1,] | 0648: 1,] | 55: 1,] | 58: 1,] |
| S02 | H05 | HOS | H04 | HOC | H02 | E S | H03 | H05 | HOC | HOC | H03 | HOC | H02 | H05 | H01 | HOI | H02 | <u>8</u> 00 | T00 | H04 | S04 | S01 | 200 | 107 | 708 | 7.08 | 106 | <u>5</u> | 106 |
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| | ÷ | | | Xp11.23 |
| L0789: 1, L0790: 1, L0666: 1, L0664: 1, H0547: 1, H0593: 1, H0689: 1, H0684: 1, S0330: 1, H0539: 1, S0152: 1, H0522: 1, H0134: 1, S0406: 1, H0555: 1, H0627: 1, L0743: 1, L0750: 1, L0756: 1, L0752: 1, L0756: 1, S0434: 1, S0436: 1, S0276: 1, | H0265: 2, H0556: 1, S0418: 1, S0376: 1, T0060: 1, S0280: 1, H0615: 1, H0628: 1, H0059: 1, H0100: 1, L0438: 1, S0126: 1, H0435: 1 and H0660: 1. | H0415: 2 | H0052: 3, H0617: 3, H0135: 3, H0012: 2, H0253: 1, S0210: 1, L0659: 1 and L0779: 1. | L0666: 16, L0751: 15, Xp11.23 |
| | Pro-6 to Gly-12, H0265: 2, H0556: Ala-30 to Arg-35, S0418: 1, S0376: 1 Arg-90 to Thr-102, T0060: 1, S0280: 1 Phe-112 to Asp-120, H0615: 1, H0628: Asn-157 to Thr-163. H0059: 1, H0100: L0438: 1, S0126: 1 H0435: 1 and H066 | Asp-22 to Val-42, Phe-50 to Tyr-55, Leu-65 to Gln-70. | Glu-20 to Ser-27, Ala-49 to Pro-55, Phe-66 to Asp-71, Ala-77 to Val-83, Pro-85 to Tyr-103, Pro-135 to Ala-142. | Pro-5 to Ser-12, |
| | 2866 | 2867 | 2868 | 2869 |
| | 1 - 489 | 3 - 359 | 808 - 383 | 3684 - 283 |
| | 691 | 692 | 693 | 69 |
| | 1041049 | 1041070 | 1041900 | 1042462 |
| | НОGDР49 | HOFMK22 | HBGNT69 | HSPSI42 |

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| | | | Gly-45 to Gly-56, L0754: 7, L0731: 7, | 300110, |
| | | | | 300600, |
| <u> </u> | | | 7, S | 301000, |
| - | | | _ | 301000, |
| | | | | 301830, |
| | | | | 309470, |
| | | | 341, L0748: 5, L0745: 5, | 309500, |
| | | | Ser-357 to Arg-364, L0747: 5, H0657: 4, | 309610, |
| - | | | | 309850, |
| | | | | 311050, |
| | | | | 312060 |
| | | <u> </u> | Arg-523 to Gly-529, L0592: 4, L0362: 4, | - |
| | | | | |
| | _ | | Ser-623 to Arg-634, H0176: 3, H0545: 3, | |
| | | | Tyr-636 to Gln-642, H0178: 3, H0424: 3, | |
| | | | Asp-661 to Leu-671, L0369: 3, L0766: 3, | |
| | _, | | Glu-692 to Lys-703, L0659: 3, H0547: 3, | |
| | | | Gln-734 to Tyr-742, S0406: 3, L0750: 3, | |
| | | | Thr-792 to Ile-798, L0599: 3, L0361: 3, | |
| | | | Pro-806 to Thr-811, L0601: 3, H0543: 3, | |
| • | | | Phe-875 to Gly-880, T0049: 2, H0484: 2, | |
| | | · | Ser-886 to Gln-891, S0420: 2, S0360: 2, | - |
| • | | | Val-897 to Glu-903, L0717: 2, H0370: 2, | |
| | | | Glu-926 to Asn-932, H0333: 2, H0635: 2, | |
| | | | Arg-945 to Asp-950,H0318: 2, H0196: 2, | |
| • | | | Pro-952 to Lys-958, H0085: 2, H0546: 2, | |
| | | | Gly-991 to Gly- H0050: 2, T0010: 2, | |
| | | | 1001, H0428: 2, H0213: 2, | |
| | | | Pro-1019 to Trp- H0674: 2, H0591: 2, | |

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| H0100: 2, S0142: 2, | .5575: 2, L0372: 2, | .0764: 2, L0774: 2, | .0775: 2, L0378: 2, | .0776: 2, L0657: 2, | ,0636: 2, H0144: 2, | .0565: 2, H0690: 2, | 10660: 2, S3014: 2, | S0028: 2, L0746: 2, | .0749: 2, L0752: 2, | .0753: 2, S0436: 2, | .0588: 2, L0608: 2, | S0026: 2, H0352: 2, | H0395: 1, H0713: 1, | .0785: 1, H0483: 1, | S0418: 1, S0442: 1, | H0733: 1, H0208: 1, | S0045: 1, H0393: 1, | H0351: 1, S0278: 1, | H0549: 1, L0622: 1, | 9: 1, H0250: 1, | H0618: 1, T0048: 1, | H0581: 1, H0596: 1, | .0040: 1, H0597: 1, | H: 1, L0041: 1, | H0086: 1, N0006: 1, | H0620: 1, H0057: 1, | H0051: 1, S0051: 1, | H0083: 1, H0594: 1, | H0188: 1, H0039: 1, |
| 1028, H0100 | 1082 to Met- | <u> </u> | 098 to Gly- | <u>H</u> | 1116 to Glu- | _ | <u>114</u> | 80028 | L074 | 1075 | 1058 | 8002 | H039 | 1078 | 8041 | H073 | S004 | H035 | H054 | T0039: 1 | H061 | H058 | 1004 | H0544: 1 | 300H | 790H | H005 | 300H | H018 |
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| L0483: 1, T0006: 1, | H0604: 1, H0405: 1, | H0181: 1, H0617: 1, | H0169: 1, L0455: 1, | H0135: 1, H0038: 1, | H0087: 1, T0067: 1, | H0412: 1, H0413: 1, | H0059: 1, T0069: 1, | T0004: 1, L0351: 1, | T0041: 1, S0440: 1, | H0641: 1, S0422: 1, | H0529: 1, L0536: 1, | L0535: 1, L0638: 1, | L0637: 1, L0646: 1, | L0521: 1, L0794: 1, | L0650: 1, L0376: 1, | L0653: 1, L0655: 1, | L0606: 1, L0635: 1, | L0518: 1, L0382: 1, | L0809: 1, L0519: 1, | L0541: 1, L0790: 1, | L0793: 1, L0532: 1, | H0723: 1, H0520: 1, | H0593: 1, H0683: 1, | H0684: 1, H0659: 1, | H0648: 1, H0672: 1, | H0521: 1, H0696: 1, | H0694: 1, S0037: 1, | L0744: 1, L0740: 1, | L0780: 1, L0757: 1, |
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| L0759: 1, H0445: 1, L0587: 1, L0589: 1, L0593: 1, L0594: 1, S0106: 1, S0011: 1, H0136: 1, H0423: 1 and H0293: 1. | H0657: 4, H0687: 2, H0658: 2, H0422: 2, H0222: 1, H0581: 1, S0050: 1, H0412: 1, H0641: 1, H0538: 1, L0766: 1, L0775: 1, L0766: 1, L0775: 1, L0805: 1, L0809: 1, L0438: 1, H0689: 1, S0328: 1, H0525: 1, | S0410: 52, H0617: 5, L0774: 4, S0408: 3, H0360: 3, H0486: 3, L0809: 3, S0380: 3, L0751: 3, L0749: 3, L0751: 3, L0749: 3, L0761: 3, S0358: 2, S0376: 2, L0779: 2, L0764: 2, L0779: 2, L0752: 2, H0484: 1, H0483: 1, S0442: 1, H0734: 1, H0370: 1, H0257: 1, L0623: 1, |
| <u> </u> | Leu-17 to Glu-22, Pro-44 to Gly-51. I | Pro-18 to Pro-24, Thr-45 to Gly-54, Ser-60 to Ser-67, Ala-82 to His-92, Pro-94 to Ser-106, Pro-126 to Arg-133. |
| | 2870 | 2871 |
| | 174 - 344 | 39 - 476 |
| | 695 | 969 |
| | 1042649 | 1042859 |
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| H0706: 1, H0744: 1, H0231: 1, L0163: 1, H0606: 1, H0610: 1, F0067: 1, S0438: 1, S0422: 1, L0770: 1, L0803: 1, L0806: 1, L0776: 1, L0792: 1, L0776: 1, H0660: 1, S0406: 1, H0631: 1, H0445: 1, S0436: 1, | L0805: 5, L0766: 4, H0341: 3, S0440: 3, H0650: 2, H0656: 2, H0156: 2, S0003: 2, H0591: 2, H0264: 2, H0560: 2, L0598: 2, S0374: 2, L0438: 2, L0749: 2, L0752: 2, H0423: 2, H0685: 1, H0449: 1, H0488: 1, S0408: 1, H0580: 1, H0619: 1, H0581: 1, H0013: 1, H0581: 1, H0013: 1, H0581: 1, H0013: 1, H0581: 1, |
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| | Asp-16 to Ser-25, L0805: 5, L0766: 4 Arg-52 to Lys-74, H0341: 3, S0440: 3, Ile-102 to Asn-109, H0650: 2, H0656: 2 Asp-138 to Gly-149, H0156: 2, S0003: 2, Ser-161 to Thr-168, H0591: 2, H0264: 2 Asn-225 to Arg-235, H0560: 2, L0598: 2, Asn-247 to Lys-256, S0374: 2, L0438: 2, His-302 to Cys-311, L0749: 2, L0752: 2, Ile-324 to Ser-347, H0423: 2, H0648: 1, Cys-355 to Pro-375, L0005: 1, S0444: 1, Ile-389 to Gln-398, S0408: 1, H0580: 1, Ile-429 to His-502, H0619: 1, H0580: 1, Lys-539 to Ser-545, H0194: 1, T0103: 1, H0551: 1 H06477: 1, H0488: 1 |
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| AR089: 1, AR060: 1, AR055: 1, AR096: 1, AR053: 0, AR096: 1, AR039: 0, AR104: 0, AR039: 0, AR104: 0, AR039: 19, H0046: 11, L0439: 19, H0046: 11, L0794: 4, L063: 4, L0779: 3, L0771: 2, S0378: 2, S0376: 2, H0771: 2, S0358: 2, S0376: 2, H0779: 2, H0771: 2, S0358: 2, S0376: 2, H0779: 2, H0771: 2, S0358: 2, S0376: 2, H0775: 2, H0779: 2, H0776: 2, H0779: 2, H07 |
| Arg-11 to Gly-36. |
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| H0586: 2, H0052: 2, | 70067: 2, H0646: 2, | .0646: 2, L0764: 2, | ,0364: 2, L0775: 2, | 0806: 2, L0657: 2, | 0788: 2, L0666: 2, | 10659: 2, H0666: 2, | S0330: 2, L0748: 2, | .0745: 2, L0750: 2, | 777: 2, L0759: 2, | .0599: 2, L0608: 2, | .0411: 1, H0686: 1, | 30444: 1, H0441: 1, | 333: 1, T0109: 1, | .0022: 1, H0575: 1, | S0010: 1, S0346: 1, | 10596: 1, L0738: 1, | S6028: 1, H0688: 1, | T0023: 1, T0006: 1, | H0644: 1, H0165: 1, | H0040: 1, H0494: 1, | S0466: 1, S0438: 1, | .0762: 1, L0640: 1, | .0772: 1, L0800: 1, | .0648: 1, L0389: 1, | .0805: 1, L0653: 1, | .0776: 1, L0382: 1, | .0789: 1, L.0532: 1, | .0664: 1, H0547: 1, | H0689: 1, H0690: 1, |
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| H0684: 1, H0658: 1, S0380: 1, H0704: 1, S0168: 1, H0478: 1, S0037: 1, L0742: 1, L0749: 1, L0755: 1, S0434: 1, S0436: 1 and H0506: 1. | H0638: 73, H0641: 67, 9q31 S0358: 25, H0521: 24, L0747: 23, S0408: 17, S0360: 16, H0659: 14, L0748: 13, L0731: 13, H0250: 12, H0494: 12, L0757: 12, S0444: 11, S0026: 11, S0440: 10, S0328: 10, S0206: 9, S0132: 8, S0144: 8, S0077: 7, H0574: 7, S0374: 7, S0126: 7, S0374: 7, S0126: 7, S0374: 7, H0140: 6, H0549: 7, H0140: 6, H0522: 6, S0242: 6, H0522: 6, S0242: 6, H0552: 5, S0046: 5, H0486: 5, S0406: 5, S0040: 4, S0442: 4, H0546: 4, H0684: 4, H0548: 4, S3012: 4, |
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| S3014: 4, L0742: 4, | 0740: 4, L0756: 4, | 0752: 4, L0755: 4, | .0758: 4, H0686: 3, | H0341: 3, H0664: 3, | S0222: 3, H0592: 3, | H0331: 3, T0109: 3, | F0115: 3, H0046: 3, | H0014: 3, S0003: 3, | .0809: 3, H0547: 3, | H0660: 3, H0667: 3, | 3542: 3, H0171: 2, | F0049: 2, H0663: 2, | 1420: 2, S0356: 2, | H0580: 2, S0045: 2, | S0278: 2, H0537: 2, | H0333: 2, H0069: 2, | H0427: 2, H0098: 2, | 0597: 2, H0544: 2, | H0150: 2, L0471: 2, | H0060: 2, H0109: 2, | 10266: 2, H0644: 2, | H0032: 2, S0438: 2, | H0633: 2, L0762: 2, | .0769: 2, L0372: 2, | .0662: 2, L0806: 2, | JO789: 2, L0666: 2, | H0682: 2, H0670: 2, | .0602: 2, H0696: 2, | S0404: 2, L0588: 2, |
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| H0529: 2, L0659: 2, | L0809: 2, L0665: 2, | H0547: 2, H0672: 2, | H0539: 2, L0748: 2, | L0759: 2, L0591: 2, | L0485: 2, S0040: 1, | H0650: 1, H0656: 1, | S0212: 1, H0663: 1, | S0360: 1, H0351: 1, | S0222: 1, S6014: 1, | H0392: 1, H0632: 1, | T0114: 1, H0427: 1, | L0021: 1, H0599: 1, | H0575: 1, H0581: 1, | S0049: 1, L0471: 1, | H0373: 1, H0510: 1, | S6028: 1, H0615: 1, | H0622: 1, S0036: 1, | Т0067: 1, Н0413: 1, | T0041: 1, S0002: 1, | S0426: 1, L0369: 1, | L0770: 1, L0769: 1, | L0761: 1, L0772: 1, | L0646: 1, L0794: 1, | L0774: 1, L0775: 1, | L0655: 1, L0661: 1, | | L0793: 1, L0664: 1, | H0682: 1, H0435: 1, | H0659: 1, H0660: 1, |
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| , L048 | , H061 | , H041 | H0561 | S0440 | 1, L0763: | 1.0772: | L0381: | L0776: | L0383: | L0664: | H0144: | 1, H0658: | , H062 | 1, L0744: | L0755 | and L0594: | 16, AR | 5, AR089 | 3, AR060: | 2, AR055 | 1, AR061: | 11, LO7 | L0805 | S0358 | 1.0766 | L0665 | H052 | L0740 | H0222 |
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| S0027: 1, L0439: 1, | .0749: 1, L0779: 1, | _0777: 1, L0731: 1, | .0757: 1, H0444: 1, | H0445: 1, S0026: 1, | S0242: 1, S0194: 1 and | H0423: 1. | H0435: 1 and S0424: 1. | L0740: 20, L0754: 14, | .0742: 9, L0771: 7, | _0748: 7, L0749: 7, | L0752: 6, S0422: 5, | .0770: 5, H0585: 4, | 30360: 4, H0581: 4, | .0769: 4, L0775: 4, | 30374: 4, H0521: 4, | .0747: 4, L0779: 4, | _0753: 4, L0758: 4, | H0295: 3, S0278: 3, | 30440: 3, S0002: 3, | L0649: 3, L0806: 3, | 30126: 3, S0380: 3, | S0434: 3, S0436: 3, | 30026: 3, H0170: 2, | 10661: 2, S0358: 2, | S0045: 2, H0370: 2, | H0442: 2, H0318: 2, | S0474: 2, H0687: 2, | S0003: 2, H0551: 2, | S0438: 2, H0509: 2, |
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| | Glu-98 to Asp-109, Ser-121 to Ile-128. |
| | 2893 |
| | - 4701 - 2335 |
| | 718 |
| | 1045842 |
| | HHFUN47 |

| | 116860, 126650, | 126650, | 129900, | 154276, |
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| | 7q21-q22 11 | 12 | 12 | 15 |
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| | | | 1 yr-90 to Gly-102, P | |
| | 2894 | | | |
| | 1 - 504 | | | |
| | 719 | | | |
| | 1045995 | • | | |
| · | HNTSV18 | | | |

| 173360, 173360, 602136, 602136, 602136, | 602026 |
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| | 10p11.2-p12600964 602026 |
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| | 120435, 120435, 126600, 135300, 136435, 152790, 152790, 157170, 182601, 278300, |
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| | 2p22-p21 |
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| | Val-3 to Gly-14, Ser-65 to Asn-70. |
| | 2896 |
| · | 870 - 508 |
| | 721 |
| | 1046177 |
| | HE6CR19 |

| 601071, | 601771, | 602134 | | | | | | | | | | | | | | | | | : | | | | | | | | | | |
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| | 104770, | 107670, | 110700, | 131210, | 134638, | 135940, | 136132, | 145001, | 146740, | 146740, | 146740, | 146790, | 152445, | 152445, | 159001, | 173610, | 174000, | 176310, | 179755, | 182860, | 182860, | 182860, |
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| | | Ser-44 to Asn-57. | | | | | | | | | | | | | | | | | | | | |
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| 186780. | 191030, | 191315, | 227400, | 227400, | 230800, | 230800, | 266200, | 600897, | 601105, | 601412, | 601652, | 602491 | | | | - | | | | | | | | | | | | |
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| | | <u></u> | S | <u>æ</u> | S | <u> </u> | <u>正</u> | 正 | 正. | <u> </u> | <u></u> | S | <u> </u> | <u> </u> | <u> </u> | <u>正</u> | <u> </u> | <u> </u> | | | | | <u>.</u> | | | . <u></u> | | |
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| · | 106165, 117700, 117700, 150210, 169600, 180380, 180380, 190000, 203500, 232050, |
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| | Thr-26 to Ala-44, Pro-55 to His-71, Ser-76 to Cys-83, Asn-92 to Lys-104, Pro-149 to Tyr-158, Ser-208 to Asp-214, Glu-228 to Tyr-234. |
| | 2898 2899 |
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| | HODHS68 |

| 276902, | 600882, | 601199, | 601199, | 601199, | 601471, | 601682 | | | | | | | | | | | - | | | | | | - | | | | | | |
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| S0440: 1, H0132: 1 | S0150: 1, H0641: 1 H0652: 1 1 0369: 1 | 0762; 1, L0763; 1 | L0638: 1, L0372: 1 | .0800: 1, L0648: 1 | L0767: 1, L0768: 1 | .0561: 1, L0381: 1 | L0803: 1, L0804: 1, | .0651: 1, L0806: 1 | .0527: 1, L'0657: 1 | .0659: 1, L.0526: 1 | JO544: 1, L0367: 1 | J0789: 1, L0791: 1 | L0666: 1, L0664: 1, | 10520: 1, H0659: | 10670: 1, H0648: | H0672: 1, S0380: 1, | H0518: 1, S0454: | S0013: 1, H0696: 1 | S0044: 1, S0406: 1 | H0555: 1, H0187: | S0392: 1, H0627: | H0631: 1, S3012: | S0390: 1, S3014: 1 | S0027: 1, S0028: | L0745: 1, L0756: | L0780: 1, S0031: | S0260: 1, H0707: | S0434: 1, L0596: 1, |
| S | N E | <u> </u> | <u></u> | <u>.</u> | <u>. – 1</u> | <u>.1</u> | | <u>1</u> | . <u></u> | <u> </u> | <u>. —</u> | <u>+-</u> 1 | | <u> </u> | <u> </u> | # | *** | <u> </u> | <u> </u> | | | | | -54 | | | | |
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| L0588: 1, L0599: 1, L0362: 1, L0361: 1, S0276: 1, H0542: 1, S0384: 1 and H0293: 1. | H0556: 15, H0090: 12, 80152: 11, H0543: 10, H0553: 9, S0026: 9, H0341: 8, S0358: 8, H0046: 8, S0440: 8, L0659: 8, L0665: 7, H0591: 7, H0547: 6, H0644: 6, H0040: 6, H0644: 6, H0040: 6, H0644: 6, H0040: 6, L0752: 6, L0599: 6, L0752: 6, L0599: 6, L0568: 5, H0624: 5, S0408: 5, H0560: 5, H0 |
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| | Gln-1 to Gln-11, Ala-24 to Asp-33, Pro-81 to Arg-91, Lys-99 to Lys-115, H0341: 8, S0358: 8, Lys-99 to Lys-115, H0465: 8, L0665: 8, L0595: 8, H0657: 7, H0529: 7, H0591: 7, H0529: 7, H0591: 7, H0547: 7, H0521: 7, L0756: 7, H0521: 7, L0756: 7, L0766: 7, S0360: 6, S0476: 6, S0003: 6, H0613: 6, L0664: 6, L0764: 6, L0664: 6, L0764: 5, L0664: 6, L0764: 5, L0664: 6, L0764: 5, L0668: 6, H0624: 5, L0668: 6, H0624: 5, L0668: 6, H0624: 5, L0668: 6, H0541: 5, L0668: 5, H0519: 5, L0655: 5, H0519: 5, L0655: 5, H0519: 5, L0439: 5, L0759: 5, S0436: 5, H0542: 5, S0436: 5, H0542: 5, S0436: 5, H0542: 5, |
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| 265: 4, | 031: 4, | 038: 4, | 520: 4, | 546: 4, | 649: 4, | 659: 4, | 758: 4, |)422: 4, | 656: 3, | 586: 3, | 327: 3, | 083: 3, | 039: 3, | 169: 3, | 769: 3, | 809: 3, | 1520: 3, |)522: 3, | 0171: 2, | 0040: 2, | 0295: 2, | 0583: 2, | 0402: 2, | 0005: 2, | 354: 2, | 046: 2, | 0393: 2, | 0497: 2, | 0114: 2, |
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| H0423: 5, H0265: 4, | S0420: 4, H0031: 4, | H0598: 4, H0038: 4, | H0633: 4, L0520: 4, | L0770: 4, L0646: 4, | L0771: 4, L0649: 4, | L0775: 4, H0659: 4, | L0779: 4, L0 | H0445: 4, H0422: 4, | S0424: 4, H0656: 3, | S0132: 3, H0586: 3, | H0486: 3, H0327: 3, | S0051: 3, H0083: 3, | H0687: 3, H0039: 3, | L0483; 3, H0169; 3, | L0369: 3, L0769: 3, | L0657: 3, L0809: 3, | L0438: 3, H0520: 3, | S0330: 3, H0522: 3, | H0665: 3, H0171: 2, | H0686: 2, S0040: 2, | H0716: 2, H0295: 2, | S0134: 2, H0583: 2, | H0663: 2, H0402: 2, | S0418; 2, L0005: 2, | S0442: 2, S0354: 2, | \$0376: 2, \$0046: 2, | H0619: 2, H0393: 2, | L0717: 2, H0497: 2, | H0574: 2, T0114: 2, |
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| H0427: 2, H0590: 2, | H0546: 2, H0012: 2, | H0373: 2, H0051: 2, | H0428: 2, H0628: 2, | H0673: 2, H0124: 2, | H0634: 2, H0616: 2, | H0488: 2, H0412: 2, | H0056: 2, L0564: 2, | H0494: 2, H0561: 2, | H0509: 2, H0132: 2, | H0646: 2, L0640: 2, | .0763: 2, L0772: 2, | L0521: | .0766: 2, L.0804: 2, | 0805: 2, L0653: 2, | .0790: 2, H0690: 2, | S0328: 2, H0539: 2, | H0518: 2, H0134: 2, | H0631: 2, L0748: 2, | .0740: 2, S0031: 2, | S0434: 2, L0588: 2, | .0485: 2, L0593: 2, | .0603: 2, H0713: 1, | H0717: 1, S0218: 1, | 50116: 1, S0212: 1, | H0671: 1, H0664: 1, | H0662: 1, H0450: 1, | H0125: 1, S0444: 1, | T0008: 1, H0580: 1, | S0045: 1, H0351: 1, |
| H04 | H05 | H03 | HO4 | 90H | 90H | H04 | H00 | H04 | H05 | 90H | 107 | 103 | <u> </u> | 108 | 101 | 203 | H05 | 90H | 101 | 804 | 104 | 907 | H07 | 201 | 90H | 90H | H01 | <u>100</u> | 00S |
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| S0222: 1, H0409: 1, | H0592: 1, H0642: 1, | H0331: 1, H0632: 1, | H0250: 1, H0069: 1, | H0635: 1, S0280: 1, | H0156: 1, L0021: 1, | H0042: 1, H0575: 1, | S0474: 1, H0581: 1, | H0421: 1, H0052: 1, | H0251: 1, H0263: 1, | T0103: 1, H0545: 1, | H0457: 1, H0041: 1, | H0123: 1, H0050: 1, | L0471: 1, H0620: 1, | H0024: 1, H0057: 1, | S0388: 1, H0239: 1, | H0375: 1, H0594: 1, | S0318: 1, S0316: 1, | H0286: 1, S0022: 1, | S0214: 1, H0328: 1, | H0622: 1, T0023: 1, | H0119: 1, L0142: 1, | H0032: 1, H0674: 1, | S0364: 1, H0376: 1, | H0135: 1, H0087: 1, | Т0067: 1, Н0623: 1, | H0100: 1, T0041: 1, | T0042: 1, H0625: 1, | L0065: 1, S0438: 1, | H0131: 1, S0150: 1, |
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| S0142: 1, S0422: 1, L0598: 1, L0631: 1, L0638: 1, L0641: 1, L0764: 1, L0773: 1, L0648: 1, L0363: 1, | L0767: 1, L0768: 1, L5574: 1, L0381: 1, L0552: 1, L0774: 1, L0375: 1, L0607: 1, L0634: 1, L0782: 1, S0428: 1, S0374: 1, H0593: 1, H0669: 1, H0666: 1, H0648: 1, H0672: 1, S0380: 1, H0672: 1, S0013: 1, H0696: 1, H0704: 1, S0174: 1, S0432: 1, L0436: 1, L0597: 1, L0777: 1, L0755: 1, L0777: 1, L0755: 1, L0589: 1, L0591: 1, H0668: 1, H0667: 1, H0668: 1, R0667: 1, H0668: 1, S0194: 1 and H0136: 1, S0194: 1 and | L0747: 10, L0758: 6, |
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| | | Pro-15 to Leu-21, |
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| L0752: 5, L0774: 4, 1.0663: 4, L0748: 4, | 1,0751: 4, L0775: 3, | L0757: 3, 1 | 80360: 2, 80007: 2, | H0687: 2, L0769: 2, | L0761: 2, L0766: 2, | L0806: 2, L0750: 2, | L0777: 2, L0753: 2, | L0755; 2, H0254: 1, | 80420: 1, 80356: 1, | H0392: 1, H0587: 1, | L0021: 1, H0046: 1, | H0178: 1, H0620: 1, | S0050: 1, H0617: 1, | H0673: 1, H0616: 1, | S0144: 1, S0344: 1, | L0637: 1, L0646: 1, | L0374: 1, L0771: 1, | L0767: 1, L0661: 1, | L0629: 1, L0659: 1, | • | L0368: 1, L0666: 1, | • | H0670: 1, H0672: 1, | S0404: 1, H0436: 1, | L0740: 1, L0749: 1, | L0603: 1, H0422: 1, | S0424: 1 and H0677: 1. | L0777: 13, L0794: 8, |
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| Lys-29 to Asn-39, | 1 vs-120 to Asn-125. | Glu-153 to Leu-158, | Pro-173 to Val-181. S0360: 2, S0007: 2, | | | | | | | | | | | | | | | | | | | | | | | | | Lys-1 to Leu-6, |
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| L0438: 7, L0748: 7, | L0659: 6, L0759: 6, | L0591: 6, H0617: 5, | L0439: 5, L0779: 5, | L0758: 5, L0596: 5, | H0556: 4, H0618: 4, | H0052: 4, L0770: 4, | L0803: 4, L0789: 4, | S0418: 3, H0013: 3, | H0628: 3, H0494: 3, | L0598: 3, L0769: 3, | L0804: 3, L0509: 3, | | H0624: 2, H0265: 2, | H0717: 2, S0442: 2, | 50354: 2, S0358: 2, | .0149: 2, S0046: 2, | S0278: 2, H0559: 2, | 30010: 2, S0049: 2, | .0041: 2, H0050: 2, | H0083: 2, H0328: 2, | JNKWN: 2, H0529: 2, | J0662: 2, L0776: 2, | .0655: 2, H0670: 2, | 10660: 2, S0406: 2, | J0747: 2, L0749: 2, | J0752: 2, L0731: 2, | S0436: 2, L0594: 2, | H0542: 2, H0170: 1, | H0171: 1, H0657: 1, |
| Ser-36 to Ser-41, | Arg-54 to His-63. | | | | | | | | | | | | | - | | | <u> </u> | <u> </u> | | .E. | | | | _= | | | | | |
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| .0785: 1, H0384: 1, | H0671: 1, H0663: 1, | 0534: 1, S0356: 1, | S0444: 1, S0408: 1, | 10549: 1, S0222: 1, | 10643: 1, H0632: 1, | 0414; 1, H0257: 1, | H0486: 1, T0082: 1, | T0048: 1, H0318: 1, | 0474: 1, H0194: 1, | H0263: 1, H0327: 1, | 10544: 1, H0546: 1, | H0046: 1, H0057: 1, | ,0163; 1, H0051: 1, | S0051: 1, T0010: 1, | H0266: 1, H0188: 1, | L0052: 1, H0288: 1, | 30003: 1, H0604: 1, | H0644: 1, H0068: 1, | H0316: 1, S0036: 1, | H0040: 1, H0164: 1, | H0413: 1, H0059: 1, | H0100: 1, L0564: 1, | H0625: 1, S0448: 1, | S0440: 1, S0150: 1, | L0637: 1, L0373: 1, | L0800: 1, L0374: 1, | L0765: 1, L0771: 1, | L0766: 1, L0649: 1, | L0378: 1, L0805: 1, |
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| L0493: 1, L0783: 1, L0383: 1, L5622: 1, L0368: 1, L0787: 1, L0666: 1, L0663: 1, H0144: 1, S0374: 1, L0565: 1, H0520: 1, H0547: 1, H0658: 1, H0666: 1, H0672: 1, H0651: 1, S0380: 1, L0741: 1, L0754: 1, L0750: 1, L0756: 1, S0031: 1, L0589: 1, L0590: 1, L0604: 1, L0593: 1, H0506: 1 and H0352: 1, | L0794: 6, H0685: 2, S0356: 2, H0090: 2, H0494: 2, L0766: 2, L0803: 2, L0654: 2, L0665: 2, H0435: 2, L0362: 2, H0435: 2, H0384: 1, H0484: 1, S0418: 1, H0497: 1, H0013: 1, S0010: 1, S0346: 1, S0049: 1, H0545: 1, L0455: 1, H0674: 1, L0639: 1, L0800: 1, L0376: 1, |
|--|---|
| | Glu-16 to Gly-28, Glu-73 to Glu-78, SGR19-78, Asp-94 to Ser-103, Lys-124 to Asp-129, LC Gln-149 to Arg-155, LC Ala-190 to Ser-233, Val-240 to Pro-246, HI HI HI HI HI HI HI HI HI H |
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| AR104: 1, AR033: 1, AR089: 1, AR053: 0, AR096: 0, AR061: 0, AR039: 0, AR052: 0, AR060: 0, AR055: 0 AR060: 0, AR055: 0 H0683: 10, H0717: 7, H0683: 10, H0717: 7, H0687: 4, H0656: 3, H0688: 2, H0695: 2, H0688: 2, H0695: 2, H0684: 2, H0699: 1, H0580: 1, H0601: 1, H0592: 1, H0708: 1, S0150: 1, H0699: 1, H0519: 1, H0709: 1, |
|---|
| Glu-17 to Val-22, AR104: 1, AR033: Val-29 to Asn-38, AR089: 1, AR053: Gly-60 to Val-67, AR096: 0, AR061: Gln-84 to Glu-93, AR039: 0, AR052: Lys-106 to Leu-115, AR060: 0, AR055: Gln-118 to Gln-123, H0694: 29, H0703: Lys-152 to Val-159. H0683: 10, H0717: H0687: 4, H0656: 3, H0688: 2, H0695: 2, H0688: 2, H0695: 2, H0688: 2, H0699: 1, H0699: 1, H0592: 1, H0708: 1 H0552: 1, H0555: 1 H0552: 1, H0555: 1 |
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| S0028: 1, H0707: 1 and | H0543: 1. | LU/94: 8, HUS56: 4, H0046: 4, L0809: 3. | L0748: 3, H0341: 2, | Arg-185 to Asp-190, S0356: 2, S0046: 2, | ,H0100: 2, L0769: 2, | Glu-309 to Pro-314. L0659: 2, S0328: 2, | L0742: 2, H0422: 2, | H0265: 1, T0002: 1, | S0418: 1, S0420: 1, | S0354: 1, S0045: 1, | L0717: 1, H0549: 1, | S0222: 1, H0586: 1, | H0156: 1, T0110: 1, | H0150: 1, S0051: 1, | H0594: 1, H0266: 1, | S0250: 1, H0604: 1, | S0364: 1, H0634: 1, | H0412: 1, H0494: 1, | H0561: 1, H0695: 1, | H0529: 1, L0761: 1, | L0667: 1, L0772: 1, | L0643: 1, L0764: 1, | L0771: 1, L0768: 1, | L0766: 1, L0803: 1, | L0629: 1, L0368: 1, | L0788: 1, H0690: 1, | H0682: 1, H0660: 1, | S0152: 1, S0404: 1, |
| | C1= 15 to DLo 20 | Ser-49 to Tyr-54. | Glu-111 to Glu-121, | Arg-185 to Asp-190 | Phe-206 to Asp-212, | Glu-309 to Pro-314. | | | | | | | • | | | | | | | | | | | | | | | |
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| L0747: 1, L0755: 1, H0445: 1 and H0542: 1. | H0046: 9, L0766: 8, L0731: 4, S0360: 3, S0408: 3, H0529: 3, L0769: 3, L0769: 3, H0549: 3, H0549: 3, H0656: 2, H0341: 2, S0046: 2, S0010: 2, H0318: 2, L0659: 2, S0374: 2, L0659: 2, S0374: 2, L0750: 2, L0750: 2, L0752: 2, L0759: 2, H0648: 1, H0657: 1, H0648: 1, H0657: 1, H0658: 1, H0659: 1, H0658: 1, H0649: 1, H0659: 1, H0649: 1, H0659: 1, H0649: 1, H0659: 1, H0649: 1, H0659: 1, H0667: 1, H0649: 1, H0667: 1, H0649: 1, L0598: 1, H0649: 1, L0598: 1, L0772: 1, L0598: 1, L0772: 1, |
|---|---|
| | Met-18 to Tyr-45, Arg-56 to Thr-65, Gln-89 to Glu-107, Pro-109 to Ala-132. |
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| L0800: 1, L0764: 1, L0773: 1, L0648: 1, L0768: 1, L0774: 1, L0775: 1, L0382: 1, L0792: 1, L0666: 1, H0520: 1, S0126: 1, H0682: 1, H0648: 1, | S0380: 1, S0152: 1, H0521: 1, H0696: 1, H0214: 1, S0406: 1, S0027: 1, L0751: 1, | تماتات | L0758: 6, L0731: 4, L0747: 3, S0342: 2, L0769: 2, L0768: 2, L0749: 2, L0615: 1, H0686: 1, H0125: 1, S0418: 1, S0354: 1, S0358: 1, S0360: 1, S0222: 1, H0613: 1, H0004: 1, H0510: 1, S6028: 1, H0613: 1, H0039: 1, H0494: 1, S0144: 1, L0762: 1 |
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| | <u> </u> | | Pro-41 to Gln-47, L0758: 6, L0731: 1310-131: Thr-169 to Glu-174, L0747: 3, S0342: 2 Gly-252 to Glu-259, L0769: 2, L0768: 2 Pro-343 to Ser-348, L0749: 2, L0615: 1 Asn-379 to Ala-384, H0686: 1, H0125: 1 His-425 to Glu-432, S0418: 1, S0354: 1 S0358: 1, S0360: 1 S022: 1, H0613: 1 Arg-516 to Phe-522. H0004: 1, H0510: S6028: 1, H0615: 1 H0039: 1, H0494: 1 L0762: 1 |
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| | | | HMAEL73 |

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| L0388: 1, L0775: 1, L0789: 1, H0689: 1, H0435: 1, H0648: 1, S0152: 1, L0744: 1, L0745: 1, L0755: 1 and H0423: 1. | H0551: 4, H0494: 4 H0551: 3, H0529: 3, H0521: 3, H0486: 2, L0471: 2, H0373: 2, H0550: 2, H0687: 2, H0560: 2, H0509: 2, L0794: 2, L0774: 2, H0547: 2, H0519: 2, H0539: 2, L0439: 2, L0754: 2, L0777: 2, H0539: 1, H0637: 1, H0485: 1, H0637: 1, H0530: 1, L0637: 1, L0768: 1, L0637: 1, L0768: 1, L0637: 1, L0768: 1, L0637: 1, L0768: 1, H0435: 1, H0670: 1, H0660: 1, H0670: 1, H0660: 1, H0670: 1, H0660: 1, |
| | Arg-1 to Tyr-7, Arg-17 to Arg-23, Glu-40 to Phe-45, Thr-64 to Tyr-71, Arg-117 to Glu-127, Arg-141 to Ser-148. |
| | 2508 |
| | 2 - 445 |
| | 733 |
| | 1047663 |
| | HNOKE42 |

| | | | 141750, 141800, 141800, 141800, 141850, 141850, 141850, 141850, 141850, |
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| | Glu-1 to Leu-8, Arg-38 to Cys-49. | Ala-1 to Leu-7, Ser-18 to Lys-23. | Pro-12 to Pro-20, Leu-24 to Ser-31, Pro-34 to Pro-82, Arg-84 to Pro-91. |
| | 2909 | 2910 | 2911 |
| · | 2 - 220 | 129 - 437 | 826 - 554 |
| | 734 | 735 | 736 |
| | 1047670 | 1047716 | 1047820 |
| | HOFAE31 | HCLCX62 | HNOAC93 |

| 186580, 191092, 600140, 600273, 601313, 601785 | | | | | | | | | | | | |
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| H0635: 1, H0318: 1, H0050: 1, H0051: 1, S0388: 1, S0051: 1, H0239: 1, H0688: 1, H0644: 1, H0181: 1, H0617: 1, H0606: 1, S0438: 1, L0769: 1, L0761: 1, L0803: 1, H0658: 1, H0672: 1, H0658: 1, S0404: 1, | S0406: 1, H0436: 1, L0748: 1, L0751: 1 and S0276: 1. | AR060: 5, AR061: 3, AR104: 3, AR089: 3, | 2, AR055: 5, H0413: 3, | S0028: 3, H0170: 2, S0212: 2, H0546: 2. | H0266: 2, H0171: 1, | S0040: 1, H0580: 1, H0208: 1, H0411: 1. | H0437: 1, H0453: 1, | H0427: 1, H0051: 1, | S0051: 1, H0355: 1, S0003: 1, H0031: 1, | H0412: 1, S0188: 1, | S0390: 1, S3014: 1, | S0027: 1 and S0051: 1. |
| 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 | | | Cys-31 to Cys-39. AJ | 28 | H | OSC THE | H | H | <u>~~~</u> | | S | S(|
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| | | HMEJA45 | | | | | | 4 | | | | |

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| H0693: 636, H0637: | 29, H0551: 16, L0748: | 11, L0777: 7, H0069: 5, | L0666: 4, L0157: 3, | H0641: 3, L0766: 3, | L0665: 3, L0758: 3, | H0510: 2, H0615: 2, | H0509: 2, L0663: 2, | H0521: 2, L0751: 2, | L0755: 2, H0542: 2, | H0650: 1, H0657: 1, | S0356: 1, S0376: 1, | S0360: 1, H0431: 1, | H0013: 1, H0618: 1, | S0010: 1, H0581: 1, | T0001: 1, H0052: 1, | H0251: 1, H0596: 1, | H0373: 1, H0083: 1, | H0271: 1, S0250: 1, | S0003: 1, S0214: 1, | H0622: 1, H0553: 1, | H0674: 1, H0038: 1, | H0040: 1, H0272: 1, | H0059: 1, T0041: 1, | H0646: 1, L0598: 1, | L0649: 1, L0774: 1, | L0805: 1, L0776: 1, | L0657: 1, L0517: 1, | L0382: 1, L0791: 1, |
| Asn-33 to Glu-41, | Ala-58 to Ser-69, | Ser-77 to Pro-84, | Pro-97 to Pro-102, | Ile-121 to Gln-128. | | | | | | | | | | | | | | | | | | | | | | | | ٠ |
| 2913 | | | | | | | | | • | | | | | | | | | | | | | | | | | | | |
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| | | 150250, 164500, 277730, 600971, 601226 |
| | | 3p14.3 |
| H0144: 1, S0126: 1, H0690: 1, H0658: 1, H0648: 1, S0152: 1, S0146: 1, L0743: 1, L0439: 1, L0754: 1, L0749: 1, S0260: 1 and L0366: 1. | S0358: 1 | L0593: 16, L0591: 12, 3p14.3 H0543: 9, L0667: 8, L0751: 8, H0581: 7, H0457: 7, H0617: 7, L0659: 7, S0418: 6, S0206: 6, S0116: 5, H0341: 5, H0494: 6, S0222: 5, H0271: 5, L0766: 5, H0521: 5, S0027: 5, L0740: 5, L0749: 5, L0595: 5, S0360: 4, H0024: 4, S0280: 4, H0024: 4, H0551: 4, L0372: 4, |
| | lle-1 to Thr-7, Glu-16 to Glu-33, Leu-37 to Ala-46, Leu-69 to Glu-80, Tyr-89 to Gln-111, Ser-121 to Cys-128, Pro-135 to Glu-156, Glu-162 to Thr-177. | |
| | 2914 | 2915 |
| | 202 - 732 | 1480 - 185 |
| | 739 | 740 |
| | 1048009 | 1048188 |
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| L0666: 4, H0519: 4, | H0542: 4, H0656: 3, | S0420: 3, S0356: 3, | S0045: 3, H0052: 3, | H0545: 3, H0050: 3, | H0620: 3, S0051: 3, | H0553: 3, H0135: 3, | T0042: 3, L0475: 3, | S0344: 3, L0769: 3, | L0654: 3, L0663: 3, | H0520: 3, S3014: 3, | L0439: 3, L0777: 3, | S0192: 3, S0424: 3, | H0265: 2, H0556: 2, | S0040: 2, H0657: 2, | H0484: 2, S0376: 2, | H0580: 2, S0007: 2, | H0333: 2, H0575: 2, | T0048: 2, H0421: 2, | S0049: 2, H0046: 2, | L0041: 2, H0266: 2, | H0615: 2, L0483: 2, | H0087: 2, H0413: 2, | H0059: 2, H0561: 2, | H0509: 2, L0771: 2, | L0649: 2, L0775: 2, | L0375: 2, L0809: 2, | L0665: 2, H0144: 2, | L0565: 2, L0438: 2, | H0658: 2, H0555: 2, |
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| 41:2. | 54: 2, | 57: 2, | 45: 2, | 99: 2, | 02: 1, | 102: 1, |)49: 1, | 01: 1, | 569: 1, | 663: 1, | 306: 1, | 58: 1, | 140: 1, | 393: 1, | 278: 1, | 610: 1, | 613: 1, | 497: 1, | 1256: 1, |)427: 1, | 346: 1, | 318: 1, | 172: 1, | 471: 1, | 010: 1, |)687: 1, | 2284: 1, | 0428: 1, | 0181: 1, |
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| 50037: 2, 1.0741: 2. | L0748: 2, L0754: 2, | L0745: 2, L0757: 2, | L0758: 2, H04 | L0596: 2, L0599: 2, | L0601: 2, T00 | H0686: 1, S0402: 1 | H0294: 1, T0049: 1 | S0212: 1, S0001: 1, | H0483: 1, H0 | H0661: 1, H0 | H0662: 1, H0 | S0442: 1, S0358: 1 | H0637: 1, S0 | H0619: 1, H0 | L0717: 1, S02 | H0611: 1, H0 | H0357: 1, H0613: 1, | H0592: 1, HC | H0559: 1, HC | H0013: 1, H0427: 1, | S0010: 1, SO | S0182: 1, H0318: 1, | S0474: 1, H0 | H0123: 1, LC | S0388: 1, T0 | H0179: 1, H0687: | H0288: 1, H0284: 1 | H0252: 1, H(| H0628: 1, H0181: 1 |
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| H0606: 1, L0055: 1. | H0124: 1, H0090: 1, | H0040: 1, T0067: 1, | H0412: 1, H0100: 1, | H0560: 1, H0130: 1, | H0647: 1, H0646: 1, | S0142: 1, S0210: 1, | S0002: 1, H0529: 1, | L0535: 1, L0770: 1, | L0638: 1, L0796: 1, | L0637: 1, L0643: 1, | L0374: 1, L0764: 1, | L0773: 1, L0662: 1, | L0768: 1, L0774: 1, | L0378: 1, L0658: 1, | L0383: 1, L0382: 1, | L0791: 1, L0664: 1, | S0126: 1, H0689: 1, | H0690: 1, H0682: 1, | H0435: 1, H0670: 1, | H0660: 1, H0666: 1, | L0355: 1, S0378: 1, | L0602: 1, H0134: 1, | H0436: 1, L0750: 1, | L0755: 1, S0031: 1, | S0436: 1, L0608: 1, | S0026: 1, H0653: 1, | H0665: 1, H0667: 1, | H0217: 1 and H0352: 1. | H0253: 8, H0618: 6, |
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| | 116806, 120120, 120120, 120120, |
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| | 3p21.3 |
| L0758: 5, L0766: 4, H0620: 3, H0038: 3, L0794: 3, S0358: 2, H0687: 2, L0809: 2, L0787: 2, L0665: 2, H0520: 2, L0439: 2, H0650: 1, H0657: 1, S0222: 1, H0574: 1, H0318: 1, H0548: 1, H0566: 1, H0548: 1, H0566: 1, H0645: 1, H0564: 1, H0649: 1, L0769: 1, L074: 1, L0768: 1, L0774: 1, L0768: 1, L0774: 1, L0768: 1, L0806: 1, L0509: 1, L0774: 1, L0509: 1, L0774: 1, L0509: 1, L0774: 1, L0438: 1, H0435: 1, H0660: 1, H0648: 1, H0660: 1, H0648: 1, H0660: 1, H0648: 1, H0660: 1, H0648: 1, | AR060: 241, AR033: 229, AR055: 211, AR061: 142, AR089: 103, AR053: 85, |
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| | 2917 |
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| | 742 |
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| | HCFCS40 |

| 120436, | 120436, | 120436, | 138320, | 168468, | 182280, | 600163 | | | | | | | | | | | | | | | | | | | | | | | |
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| AR052: 62, AR104: | 48, AR096: 33, AR039: | ٠- د | S0474: 21, H0683: 7, | .0748: 7, H0251: 6, | .0777: 5, S0422: 4, | .0764: 4, L0766: 4, | .0740: 4, L0754: 4, | S0418: 3, H0046: 3, | H0553: 3, H0521: 3, | .0779: 3, L0752: 3, | J0731: 3, L0757: 3, | H0422: 3, H0713: 2, | H0717: 2, H0733: 2, | S0476: 2, H0441: 2, | H0575: 2, H0428: 2, | H0494: 2, L0659: 2, | .0666: 2, H0547: 2, | H0519: 2, L0439: 2, | .0745: 2, L0749: 2, | .0756: 2, L0758: 2, | .0485: 2, S0026: 2, | S0384: 2, H0716: 1, | S0212: 1, H0661: 1, | S0356: 1, S0444: 1, | S0045: 1, S0046: 1, | S0132: 1, H0645: 1, | H0406: 1, S6022: 1, | H0431: 1, H0587: 1, | H0486: 1, T0040: 1, |
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| H0013: 1, H0069: 1, H0156: 1, H0098: 1, H0024: 1, H0150: 1, H0024: 1, H0150: 1, H0024: 1, H0033: 1, H0124: 1, T0067: 1, H0413: 1, H0623: 1, H0560: 1, L0769: 1, L0767: 1, L0372: 1, L0775: 1, L0372: 1, L0775: 1, L0375: 1, L0657: 1, L0774: 1, H0657: 1, L0658: 1, L0657: 1, L0658: 1, H0697: 1, L0658: 1, H0724: 1, H0520: 1, H0724: 1, H0520: 1, H0724: 1, H0520: 1, H0738: 1, L0759: 1, S0031: 1, H0445: 1, S0031: 1, S0436: 1, S0192: 1, S0424: 1 and | S0440: 12, H0543: 11, H0341: 7, L0775: 6, L0591: 6, L0770: 5, L0766: 5, L0750: 5, |
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| | Trp-1 to Gly-10, Gly-22 to Gly-29, Leu-82 to Val-88, Ala-116 to His-123, |
| | 2918 |
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| 360: 4 | 486: 4 | 372: 4 | 755: 4 | 758: 4 | 114:3 | 132: 3 | 345: | 3413: | 598: 3 | 521: 3 | 657:3 | 809: 3 | 665:3 | 519: | 659: 3 | 777 : 3 | 595:3 | 265: 2 | 484: 2 |)125: 2 | 408: 2 | 580: 2 | 575: 2 | 546: 2 | 510:2 | 412:2 | 763: 2 | 774: 2, |
| : 5, SC | 4, HC | : 4, SC | 4, 10 | 4,10 | 4, S0 | : 3, S0 | : 3, H(| : 3, H(| : 3, LC | 3, LC | 3,10 | 3, 10 | 3, 10 | 3, H(| 3, HO | 3,10 | 3, 10 | : 2, H(| 2, H0 | : 2, H(| 2, 80 | 2, HO | 2, H0 | : 2, H(| : 2, HC | : 2, HC | 2, L0 | 2, L0 |
| H0542 | 30045 | H0012 | 30144 | L0731 | L0596 | H0657 | H0640 | H0266 | H0494 | H0529 | L0364 | .0783 | 3990 | 10547 | 30126 | H0670 | 30436: | 10395 | [0049] | 10402 | 30418: | 30410: | 70109 | 10581 | 10373 | 4070 F | 10396 | .0769: 2, L0774: |
| -181, | -207, | 277. | | .=. | | _ | ==- | | = | | .=. | | | | ` | | .01 | | | | <u> </u> | <u> </u> | | _== | | <u>, 114.</u> | . استور | |
| to Thr | to Asp | to Ser- | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | Phe-167 to Thr-181, H0542: 5, S0360: 4, | Phe-167 to Thr-181, H0542: 5, S0360: 4, Glu-202 to Asp-207, S0045: 4, H0486: 4, | Phe-167 to Thr-181, H0542: 5, S0360: 4, Glu-202 to Asp-207, S0045: 4, H0486: 4, Glu-262 to Ser-277, H0012: 4, S0372: 4, | Phe-167 to Thr-181, H0542: 5, S0360: 4, Glu-202 to Asp-207, S0045: 4, H0486: 4, Glu-262 to Ser-277, H0012: 4, S0372: 4, S0144: 4, L0755: 4, | Phe-167 to Thr-181, H0542: 5, S0360: 4, Glu-202 to Asp-207, S0045: 4, H0486: 4, Glu-262 to Ser-277. H0012: 4, S0372: 4, S0144: 4, L0755: 4, L0731: 4, L0758: 4, | Phe-167 to Thr-181, H0542: 5, S0360: 4, Glu-202 to Asp-207, S0045: 4, H0486: 4, Glu-262 to Ser-277. H0012: 4, S0372: 4, S0144: 4, L0755: 4, L0731: 4, L0758: 4, L0731: 4, L0758: 4, | Phe-167 to Thr-181, H0542: 5, S0360: 4, Glu-202 to Asp-207, S0045: 4, H0486: 4, Glu-262 to Ser-277. H0012: 4, S0372: 4, S0144: 4, L0755: 4, L0731: 4, L0758: 4, L0596: 4, S0114: 3, H0657: 3, S0132: 3, | Phe-167 to Thr-181, H0542: 5, S0360: 4, Glu-202 to Asp-207, S0045: 4, H0486: 4, Glu-262 to Ser-277. H0012: 4, S0372: 4, S0144: 4, L0755: 4, L0731: 4, L0758: 4, L0596: 4, S0114: 3, H0657: 3, S0132: 3, H0640: 3, H0545: 3, | | Phe-167 to Thr-181, H0542: 5, S0360: 4, Glu-202 to Asp-207, S0045: 4, H0486: 4, Glu-262 to Ser-277, H0012: 4, S0372: 4, L0731: 4, L0755: 4, L0731: 4, L0758: 4, L0596: 4, S0114: 3, H0640: 3, H0545: 3, H0266: 3, H0413: 3, H0266: 3, L0598: 3, | | | | | | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. | Phe-167 to Thr-181, Glu-202 to Asp-207, Glu-262 to Ser-277. |

| .0805: 2, L0653: 2, | .0776: 2, L0655: 2, | .0513: 2, L0656: 2, | .0558: 2, L0517: 2, | H0666: 2, H0672: 2, | S0328: 2, S0044: 2, | S0406: 2, L0751: 2, | .0747: 2, L0757: 2, | .0597: 2, L0581: 2, | ,0599; 2, L0604; 2, | S0026: 2, H0653: 2, | 10422: 2, H0506: 2, | H0556: 1, T0002: 1, | H0686: 1, H0295: 1, | H0583: 1, H0650: 1, | S0298: 1, H0483: 1, | 10305: 1, S0420: 1, | S0356: 1, H0675: 1, | S0046: 1, S6022: 1, | H0432: 1, H0392: 1, | H0586: 1, H0497: 1, | H0333: 1, H0331: 1, | H0250: 1, S0280: 1, | ,0021: 1, H0599: 1, | H0042: 1, T0082: 1, | S0010: 1, T0048: 1, | H0052: 1, H0597: 1, | L0738: 1, H0178: 1, | H0123: 1, H0081: 1, | L0471: 1, H0620: 1, |
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| 10295: 2. H0628: 2. | 0776: 2, \$3014: 2. | 1.0439; 2, S0212; 1, | S0418: 1, S0420: 1, | H0734: 1, S0046: 1, | S0476: 1, H0497: 1, | F0040: 1, H0544: 1, | H0545: 1, H0024: 1, | S0003: 1, H0644: 1, | H0038: 1, H0040: 1, | H0413: 1, S0294: 1, | H0633: 1, S0144: 1, | ٠ _ : | : _: | | L0438: 1, S0126: 1, | H0683: 1, H0672: 1, | H0539: 1, H0521: 1, | H0631: 1, S0037: 1, | S0434: 1, L0588: 1, | L0599: 1, L0601: 1 and | H0665: 1. | L0769: 5, L0759: 4, | H0402: 3, S0376: 3, | H0424: 3, L0749: 3, | 80222: 2, L0535: 2, | L0774: 2, L0806: 2, | L0384: 2, L0666: 2, | H0265: 1, S0218: 1, | H0484: 1, S0354: 1, |
| Arg-215 to Tvr-224 H0295; 2. H0628; 2, | Cly 240 to 1 vs-247 1 0776: 2, \$3014: 2. | Pro-279 to GIV-286. I | 1 en-295 to Glu-308. | Pro-326 to Tvr-331, H0734: 1, S0046: | Thr-343 to Arg-349, S0476: 1, H0497: | Tvr-354 to Ala-360, IT0040: 1, H0544: | Lys-369 to Asp-375, H0545: 1, H0024: 1. | Ser-426 to Asp-432. | | | | | | | | | | | | | | Ser-45 to Pro-51. | | | | | | | |
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| Leu-173 to Tyr-180, S0406: 4, L0779: 4, Arg-190 to Ala-197, L0596: 4, S0444: 3, 10109: 3, H0575: 3, S0003: 3, L0806: 3, L076: 3, L0809: 3, L076: 3, L0809: 3, L0731: 3, H0566: 3, L0731: 3, H0568: 3, L0731: 3, H0543: 3, H0571: 2, H0682: 2, S0007: 2, H0682: 2, S0010: 2, H0048: 2, H0014: 2, H0083: 2, H0032: 2, H0674: 2, H0032: 2, H0674: 2, H0032: 2, H0674: 2, H078: 2, L078: 2, L0743: 2, L0774: 2, L0775: 2, L0743: 2, L0774: 2, L0775: 2, L0743: 2, L0774: 2, L0775: 2, L0743: 2, L0775: 2, L0752: 2, S0026: 2, S0020: 2, S0026: 2, S0020: 2, S0026: 2, S0020: 2, H0522: 2, S0026: 2, S0024: 2, H0170: 1, | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| S012 | S040 | 1059 | H062 | S011 | \$04X | H061 | H061 | H049 | 1064 | 1079 | 1.077 | 1079 | H065 | 1074 | 1.075 | H0506: 3, H0341: 2, | H061 | H057 | H001 | H059 | H005 | H000H | H002 | H062 | H013 | H003 | 1006 | S034 | 1076 |
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| .0772: 2, L0648: 2, | L0806: 2, L0438: 2, | H0520: 2, H0670: 2, | H0660: 2, H0672: 2, | H0651: 2, S0328: 2, | H0539: 2, S0378: 2, | S0136: 2, S3012: 2, | S3014: 2, S0206: 2, | L0751: 2, L0746: 2, | L0752: 2, S0436: 2, | L0608: 2, L0601: 2, | H0423: 2, H0171: 1, | H0265: 1, H0556: 1, | H0225: 1, H0686: 1, | H0738: 1, H0657: 1, | H0484: 1, H0661: 1, | H0662: 1, H0589: 1, | S0356: 1, S0376: 1, | S0410: 1, T0008: 1, | H0733: 1, H0208: 1, | S0046: 1, H0640: 1, | L0717: 1, H0351: 1, | S0278: 1, H0550: 1, | H0431: 1, H0461: 1, | H0409: 1, H0299: 1, | H0601: 1, H0333: 1, | H0486: 1, H0190: 1, | H0635: 1, S0010: 1, | H0318: 1, H0007: 1, | H0263: 1, H0596: 1, |
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| H0684: 1, S0330: 1, H0518: 1, H0522: 1, H0478: 1, S0027: 1, S0028: 1, L0743: 1, L0740: 1, L0749: 1, L0740: 1, L0749: 1, L0757: 1, S0260: 1, H0444: 1, H0595: 1, L0584: 1, L0605: 1, L0581: 1, L0605: 1, H0653: 1, H01362: 1, S0192: 1, H0136: 1, S0192: 1, H0422: 1, S0192: 1, H0008: 1 and H0352: 1. | Lys-45 to Asp-54, L0605: 28, L0754: 9, S0003: 6, L0803: 6, Gln-227 to Thr-241, L0777: 5, L0759: 4, Glu-287 to Val-292, L0770: 3, L0663: 3, Glu-432 to Gly-337, H0683: 3, L0439: 3, Glu-454 to Gly-461, S0026: 3, H0171: 2, Glu-454 to Glu-461, S0418: 2, H0591: 2, H00413: 2, L0772: 2, L0768: 2, L0666: 2, L0659: 2, L0666: 2, L0659: 2, L0666: 2, L0667: 2, L0666: 2, L0667: 2, L0666: 2, L0667: 2, L0669: 2, L0667: 2, L0669: |
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| | Lys-45 to Asp-54, Thr-56 to Leu-63, Gln-227 to Thr-241, Glu-287 to Val-292, Gln-331 to Gly-337, Glu-402 to Asp-411, Glu-454 to Glu-461. |
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| | 5q31 | 10q24 |
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| | Asp-74 to His-85. | Glu-29 to Cys-39, Val-46 to Ser-52, Asn-58 to Gly-65, Cys-68 to His-82, Tyr-84 to Gly-94, |
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| S0360: 4, L0771: 4, L0653: 4, L0751: 4, | 10295: 3, H0486: 3, | H0635: 3, H0416: 3, | 10615: 3, L0662: 3, | 30428: 3, L0748: 3, | L0747: 3, L0731: 3, | H0661: 2, S0376: 2, | H0437: 2, H0587: 2, | H0485: 2, T0039: 2, | H0318: 2, H0545: 2, | H0620: 2, H0266: 2, | H0090: 2, H0623: 2, | _0763: 2, L0646: 2, | J0642: 2, L0774: 2, | J0775: 2, L0378: 2, | .0806: 2, L0664: 2, | S0374: 2, H0519: 2, | S0406: 2, L0439: 2, | .0779: 2, L0755: 2, | .0604: 2, L0698: 2, | H0149: 1, H0686: 1, | H0713: 1, S0212: 1, | H0255: 1, S0408: 1, | H0637: 1, S0046: 1, | H0411: 1, S0278: 1, | H0599: 1, H0251: 1, | H0457: 1, H0024: 1, | H0014: 1, H0328: 1, | H0553: 1, H0644: 1, |
| Leu-122 to Trp-138, S0360: 4, L0771: 4, Ala-158 to Leu-170, L0653: 4, L0751: 4 | Gly-175 to Arg-182, H0295: 3, H0486: 3 | Tyr-203 to Ser-210, F | Gly-246 to Met-258, H0615: 3, L0662: 3, | Arg-288 to Gln-296 S0428: 3, L0748: 3, | | <u>- 1-1</u> | <u>:4</u> | | <u>- -</u> | | | | _ <u></u> | 1 | | <u>S</u> | <u>S</u> | <u></u> | | <u>.</u> | <u> </u> | <u> </u> | - H-1 | <u> </u> | <u>, 114</u> | <u>- 14</u> | <u> </u> | |
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| 00 00 00 00 00 00 00 00 00 00 00 00 00 | Ala-32 to Arg-48, AR055: Cys-138 to Ser-147, AR089: Lys-161 to Glu-166, AR096: Pro-179 to Asn-189, AR061: AR053: H0521: L0748: L0439: H0520: H0520: H0520: |
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| .0757: 6, | 10486: 5, | 0002: 5, | .0809: 5, | 10574: 4, | 30344: 4, | .0655: 4, | 10518: 4, | .0747: 4, | 10624: 3, | 0360: 3, | I0004: 3, | 30003: 3, | 10428: 3, | H0038: 3, | 10529: 3, | .0771: 3, | L0662: 3, | H0658: 3, | .0779: 3, | .0759: 3, | 10717: 2, | 0444: 2, | H0318: 2, | F0003: 2, | H0057: 2, | H0674: 2, | 10561: 2, | .0769: 2, | .0641: 2, |
| H0616: 6, L0757: 6, | .0758: 6, H0486: 5, | S0438: 5, S0002: 5, | L0775: 5, L0809: 5, | S0408: 4, H0574: 4, | H0553: 4, S0344: 4, | | L0664: 4, H0518: 4, | .0744: 4, I | 1,749: 4, I | S0376: 3, S0360: 3, | S0410: 3, H0004: 3, | H0581: 3, S0003: 3, | S0214: 3, H0428: 3, | H0622: 3, H0038: 3, | S0142: 3, H0529: 3, | L0646: 3, L0771: | L0521: 3, I | H0689: 3, H0658: 3 | S0330: 3, L0779: 3, | L0731: 3, L0759: 3 | S0342: 2, H0717: 2, | S0356: 2, S0444: 2, | H0599: 2, H0318: 2, | H0457: 2, T0003: 2 | H0024: 2, H0057: 2 | H0179: 2, H0674: 2, | H0591: 2, H0561: 2, | L0770: 2, L0769: 2, | L0627: 2, L0641: 2, |
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| L0649: 2, L0803: 2, | L0653: 2, L0776: 2, | L0791: 2, L066 | S0374: 2, L0438: 2, | H0547: 2, H05 | H0659: 2, H06 | S0152: 2, H069 | H0436: 2, L07: | L0750: 2, L075 | 10591: 2, 1.058 | L0593: 2, L036 | S0242: 2, H01 | H0556: 1, H0686: 1, | H0713: 1, H0294: 1 | H0583: 1, L0415: 1, | L0808: 1, L073 | H0663: 1, S04 | S0442: 1, S0358: 1, | H0637: 1, H07 | H0733: 1, H0339: | S0132: 1, H0393: 1, | H0411: 1, S02 | S0222: 1, H06 | H0586: 1, H05 | H0333: 1, H03 | L0586: 1, H00 | H0250: 1, H0069: 1 | H0505: 1, S0474: 1, | H0052: 1, H05 | H0546: 1, H0545: |
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| H0046: 1, H0123: 1, | S0051: 1, H0510: 1, | H0266: 1, S0318: 1, | S0316: 1, H0328: 1, | H0688: 1, H0031: 1, | H0032: 1, H0673: 1, | H0169: 1, H0598: 1, | H0090: 1, T0069: 1, | H0100: 1, T0041: 1, | F0042: 1, S0370: 1, | H0633: 1, H0646: 1, | S0426: 1, L0369: 1, | L0763: 1, L0638: 1, | L0372: 1, L0644: 1, | L0764: 1, L0766: 1, | L0381: 1, L0774: 1, | • | • | | • | | S0052: 1, L0352: 1, | H0520: 1, H0519: 1, | H0690: 1, H0660: 1, | S0380: 1, S0350: 1, | S0146: 1, S0406: 1, | S3014: 1, S0027: 1, | L0756: 1, S0031: 1, | H0445: 1, S0434: 1, |
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| L0592: 1, S0026: 1, H0667: 1, S0192: 1, S0194: 1, S0196: 1, H0542: 1, H0423: 1, H0422: 1, S0458: 1, | H0352: 1 and H0712: 1. | H0556: 10, L0758: 9, L0777: 7, H0422: 7, | H0271: 6, H0265: 5, | H0179: 5, H0634: 5, | L0747: 5, L0766: 4, | L0664: 4, L0751: 4, | H0542: 4, H0423: 4, | H0657: 3, S0476: 3, | H0069: 3, H0641: 3, | L0761: 3, H0555: 3, | H0436: 3, L0757: 3, | H0222: 2, S0132: 2, | H0486: 2, H0553: 2, | H0551: 2, L0631: 2, | L0769: 2, L0667: 2, | L0772: 2, L0662: 2, | L0378: 2, L0809: 2, | S0052: 2, H0658: 2, | H0672: 2, S0328: 2, | H0518: 2, L0749: 2, | L0750: 2, H0445: 2, | L0596: 2, L0362: 2, | H0653: 2, H0220: 1, | H0713: 1, S0218: 1, |
| | | Ala-1 to Ser-19, Gln-50 to Ala-69, | ģ, | Thr-132 to Trp-147, H0179: 5, H0634: 5, | Glu-162 to Gly-172, | Leu-185 to Ser-219, L | Thr-226 to Tyr-234, | Pro-288 to Pro-304, | Glu-312 to Lys-324, H0069: 3, H0641: 3, | Cys-344 to Gly-355. | | | | | | | | | | | | | | |
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| H0663: 1, H0402: | S0418: 1, S0442: | S0444: | 30046: 1, H0392: | N0009: 1, H0042: | 30474 | H0085: | H0546: 1, H0545: | 10050 | , H0093: 1 | ., H0060: | , H0687: | L0483: | 30368: 1, H0032: | H0623: | H0561: 1, H0633: | S0142:] | 0770 | L0764:] | 0364 | L0806: | 9770 | L0657:] | L0382: | 0791 | L0665: 1 | H0593: | H0435: 1, H0659: 1 | S3014: | .0744: 1, L.0748: |
| 3: 1, I | 3: 1, S | • | 5. 1, E | 9: 1, I | 5: 1, 5 | 1: 1, F | 5: 1, F | | | 3: 1, F | 7: 1, F | Ť | : 1, E | • | l: 1, F | | • | • | • | | | | | | • | I: 1, F | 5: 1, F | 2: 1, S | 1,1 |
| H066 | 30418 | S0376: 1 | 30046 | 000 | H057; | H0581: 1 | H054 | H0457: 1 | H0014:1 | H0083: 1 | H0247: 1, | H0622: | 30368 | H0040: 1 | H056 | H0646: 1, | S0002: 1 | .0646: 1 | .0768: 1 | .0775: 1 | .0653: 1 | .0607: 1 | .0658: | .0789: | .0666: 1 | H0701: 1 | 1043 | 10522: 1, | 470 |
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| | 2q31 | | | | | | | | | | | | | | | | | | | | | | | | | _ | | |
| L0731: 1, S0196: 1 and H0506: 1. | Ser-35 to Glu-40, L0758: 8, L0439: 7, | Leu-43 to Lys-63, S0003: 6, L0602: 6, | Gln-88 to Tyr-97, L0665: 5, S0330: 5, | Gln-156 to Glu-161, H0521: 5, L0755: 5, | | | _= | _ | _ | Ser-382 to Pro-391, H0441: 3, H0687: 3, | Ser-403 to His-411, S0022: 3, L0659: 3, | Asp-414 to Leu-425, H0144: 3, H0547: 3, | Pro-429 to Arg-444, L0740: 3, L0751: 3, | Ser-481 to Asn-486, L0596: 3, H0411: 2, | Asp-495 to Lys-503, H0250: 2, S0280: 2, | Asn-508 to Leu-514, H0575: 2, H0051: 2, | Lys-528 to Ser-544, H0083: 2, H0031: 2, | Asp-565 to Tyr-576, UNKWN: 2, L0763: 2, | Leu-578 to Gly-584, L0776: 2, L0664: 2, | Lys-591 to Asn-600. S0148: 2, L0438: 2, | H0660: 2, S0328: 2, | S0380: 2, L0747: 2, | L0777: 2, L0590: 2, | L0592: 2, L0581: 2, | L0594: 2, L0362: 2, | S0194: 2, H0624: 1, | T0002: 1, H0140: 1, | H0685: 1, S0040: 1, |
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| S0134: 1, H0583: 1. | S0116: 1, S0001: 1, | H0483: 1, H0664: 1, | S0420: 1, S0354: 1, | S0358: 1, S0360: 1, | H0431: 1, H0600: 1, | H0592: 1, H0586: 1, | H0587: 1, T0114: 1, | H0013: 1, H0427: 1, | H0098: 1, H0004: 1, | S0010: 1, H0581: 1, | H0421: 1, H0596: 1, | H0545: 1, H0050: 1, | L0471: 1, H0024: 1, | H0014: 1, H0373: 1, | H0375: 1, H0266: 1, | H0428: 1, H0070: 1, | H0039: 1, H0644: 1, | H0032: 1, H0598: 1, | H0616: 1, H0551: 1, | T0067: 1, H0647: 1, | L0770: 1, L0769: 1, | L0638: 1, L0646: 1, | L0764: 1, L0648: 1, | L0521: 1, L0549: 1, | L0389: 1, L0806: 1, | L0652: 1, L0655: 1, | L0607: 1, L0526: 1, | L0783: 1, S0053: 1, |
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| | Ser-55 to Thr-60, S0444: 13, L0751: 1 Glu-97 to Ser-103, S0358: 11, L0659: 11 Thr-164 to Glu-170, S0436: 10, S0442: 8, Gly-192 to Gly-197, S0410: 8, S0406: 8, Leu-204 to Ser-218, S0434: 8, L0662: 6, Ala-238 to Ser-250, H0435: 6, S0440: 5, Asp-265 to Tyr-292, L0657: 5, S0354: 4, Gly-298 to Gly-307, T0023: 4, L0764: 4, Gly-389 to Gly-400. H0690: 4, L0743: 4, L0666: 4, H0647: 3, H0617: 3, H0615: 3, H0647: 3, L0372: 3, L0744: 3, L0748: 3, L0665: 3, H0663: 2, S0376: 2, H0662: 2, L0483: 2, H0622: 2, L0483: 2, H0622: 2, L0483: 2, |
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| | Arg-10 to Lys-24, Phe-50 to Arg-57. |
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| | lle-13 to Gly-19, Thr-21 to Gln-28, Lys-38 to Ser-45, Glu-62 to Tyr-68, | Val-72 to Gly-77, Pro-87 to Ser-93, Thr-117 to Gln-126, Gln-133 to Leu-139. | Asn-26 to Gly-31, Cys-44 to Asp-50, Gln-85 to Glu-91. | Ala-1 to Gly-7, Ser-20 to Gly-36, Glu-107 to Thr-112, Glu-114 to Pro-119. |
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| L0764: 1, L0773: 1, L0767: 1, L0387: 1, L0649: 1, L0804: 1, L0606: 1, L0661: 1, L0807: 1, L0527: 1, L0526: 1, L0518: 1, L0783: 1, L0809: 1, L0783: 1, L0809: 1, L0783: 1, L0438: 1, L0352: 1, H0701: 1, S0374: 1, L0438: 1, H0690: 1, H0682: 1, H0690: 1, H0593: 1, H0690: 1, L0532: 1, H0690: 1, L0593: 1, L078: 1, L0751: 1, L0748: 1, L0751: 1, L0788: 1, L0608: 1, L0789: 1, L0598: 1, L0593: 1, L0594: 1, S0026: 1, H0136: 1, | L0751: 4, S0358: 3, L0740: 3, S0418: 2, S0376: 2, H0318: 2, H0623: 2, S0210: 2, L0438: 2, L0741: 2, L0439: 2, L0747: 2, H0506: 2, H0171: 1, |
| | Ala-3 to Arg-8, Asp-48 to Gly-64, Asp-101 to Ser-111. |
| | 2939 |
| | 764 2 - 403 |
| | 1051246 |
| | HAOSZ53 |

| | 100690, 120180, 120180, 120180, 120180, 142989, 156232, 178600, |
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| | 2q23-q31 |
| H0686: 1, H0656: 1, H0484: 1, S0420: 1, S0356: 1, S6016: 1, H0592: 1, H0333: 1, H0427: 1, S0474: 1, H0594: 1, H0267: 1, H0124: 1, H0135: 1, H0059: 1, H0494: 1, H0059: 1, H0649: 1, H0509: 1, H0633: 1, L0521: 1, H0547: 1, S0126: 1, S0328: 1, S0126: 1, S0328: 1, L0731: 1, L0596: 1, L0731: 1, L0596: 1, H0665: 1, S0276: 1 and | H0032: 1 and H0595: 1. |
| | Ala-10 to His-29. |
| | 2940 |
| | 130 - 549 |
| | 765 |
| | 1051256 |
| | HSODP14 |

| 266100, 600258, 600321 | | |
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| | H0659: 4, L0747: 4, S0474: 3, L0777: 3, S0360: 2, L0653: 2, L0659: 2, L0659: 2, H0686: 1, H0449: 1, H0587: 1, H0494: 1, S0002: 1, L0770: 1, L0662: 1, L0767: 1, L0865: 1, L0776: 1, L0655: | L0766: 4, H0090: 3, H0266: 2, H0529: 2, L0803: 2, L0774: 2, L0779: 2, L0777: 2, L0779: 2, L0759: 2, S0114: 1, H0583: 1, H0638: 1, S0356: 1, S0376: 1, H0676: 1, S0410: 1, H0580: 1, H0619: 1, S0222: 1, H0619: 1, H0373: 1, S0003: 1, H0373: 1, H0040: 1, H0616: 1, H0412: 1, L0772: 1, |
| | Pro-1 to Trp-12. | Arg-17 to Gln-24, Tyr-39 to Tyr-47, Arg-50 to Leu-57, Lys-59 to Asn-66, Asn-78 to Val-91, Ser-94 to Ser-133, Thr-139 to Lys-175. |
| | 2941 | 2942 |
| | 2 - 199 | 3 - 527 |
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| | 1051319 | |
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| | 106165, 117700, 126451, 169600, 180380, 180380, 180380, 601199, 601199, 601199, 601199, |
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| · | 3q13.3-q24 |
| Lo664: 1, H0144: 1, H0689: 1, H0682: 1, H0672: 1, H0539: 1, S0378: 1, L0751: 1, L0745: 1, L0749: 1, L0750: 1, L0731: 1, L0758: 1, L0593: 1, S0242: 1 and S0194: 1. | S0360: 10, S0440: 7, L0794: 7, L0662: 6, H0373: 5, L0666: 5, L0665: 5, L0665: 5, L0665: 5, L0665: 5, L0665: 4, H0486: 4, L0519: 4, L0630: 4, L0731: 4, H0422: 4, H0657: 3, L0471: 3, H0657: 3, L0770: 3, L0779: 3, L0779: 3, L0779: 3, L0779: 3, L0777: 3, S0218: 2, H0662: 2, S0420: 2, H0662: 2, R0669: 2, H0662: 2, H0663: 2, H0665: 2, H0665 |
| | Lys-46 to Gly-63, S0360: 10, S0440: Ala-75 to Ser-82, L0794: 7, L0662: 6, Gly-87 to Thr-94, H0373: 5, L0666: 5 Arg-121 to Gly-126. L0665: 5, H0423: 5 S0358: 4, H0486: 4 L0519: 4, L0663: 4 H0659: 4, L0663: 4 H0659: 4, H0422: 4 H0659: 3, L0731: 4, H0422: 4 H0657: 3, L0731: 3, L0779: 3, L |
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| 803 | HO | HO | HO | 907 | 107 | 202 | H05 | HOE | S03 | 803 | S04 | H07 | 107 | <u>1.05</u> | 200 | H07 | 802 | H02 | H04 | S04 | HOE | H03 | 90H | HOS | H02 | H04 | H03 | HOO | H00 |
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| - G |), 6p21.3 | |
| S0194: 1, H0542: 1, H0543: 1, S0384: 1 and H0506: 1. | L0748: 10, L0747: 10, L0662: 9, L0596: 7, H0265: 6, L0666: 6, L0758: 6, H0081: 5, L0766: 5, L0766: 5, L0766: 5, L0766: 5, L0665: 5, L0766: 5, L0665: 5, L0766: 5, L0665: 5, L0763: 4, H0617: 4, H0527: 4, H0657: 3, H0661: 3, S0046: 3, H0661: 3, R0664: 3, R0664: 3, L0775: 3, L0765: 3, L0775: 3, L0769: 3, L0775: 3, L0769: 3, L0743: 3, L0743: 3, L0761: 3, H0645: 3, L0761: 2, H0618: 2, S0010: 2, H0618: 2, S0010: 2, H0618: 2, R0047: 3, L0471: 2, H0622: 2, L0471: 2, L047 | LU433. 4, MU414. 4, |
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| 0494: 2, | 0646: 2, | L0375: 2, | L0776: 2, | 0438: 2, | 10521: 2, | ,0753: 2, | 0757: 2, | 0587: 2, | 0581: 2, | 10352: 2, | 10556: 1, | 0114: 1, | 10341: 1, | 10484: 1, | 10589: 1, | 0360: 1, | 30007: 1, | .0717: 1, | H0369: 1, | H0455: 1, | H0333: 1, | H0486: 1, | H0250: 1, | H0575: 1, | H0706: 1, | H0253: 1, | H0318: 1, | H0374: 1, | 1, H0309: 1, |
| H0100: 2, H0494: 2, | L0769: 2, L0646: 2, | L0774: 2, L | L0653: 2, L | L0517: 2, L0438: 2, | H0660: 2, H0521: 2, | H0696: 2, L0753: 2, | L0755: 2, L | L0759: 2, L0587: 2, | L0597: 2, L | H0542: 2, H0352: 2 | H0170: 1, H0556: 1, | H0295: 1, S0114: 1, | H0381: 1, H0341: 1 | S0212: 1, H0484: 1, | H0663: 1, H0589: 1 | L0005: 1, S | H0580: 1, S0007: 1, | S0045: 1, L0717: | H0351: 1, H0369: | H0609: 1, | H0497: 1, | H0642: 1, | T0060: 1, 1 | H0156: 1, H0575: | T0082: 1, H0706: | H0036: 1, H0253: | H0390: 1, H0318: | H0581: 1, H0374: | H0052: 1, |
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| HU231: 1, HU439: | H0150: 1, H(| • | H0354: 1, H | H0615: 1, H | L0194: 1, L0 | | H0031: 1, H | L0142: 1, H0181: | H0606: 1, L0 | L0456: 1, S0 | H0090: 1, H(| H0038: 1, H0040: 1, | H0087: 1, SC | H0022: 1, TC | T0042: 1, S0438: | H0509: 1, SC | H0641: 1, SC | H0538: 1, SC | S0422: 1, S0426: | L0369: 1, L0 | • | • | • | L0626: 1, L0 | L0768: 1, L0 | | L0533: 1, L0 | L0633: 1, L0657: 1 | L0542: 1, L0 |
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| | Lys-7 to Glu-27, L0748: 13, L0758: Ser-48 to Glu-53, L0749: 4, L0439: 3, Gln-58 to Pro-69, H0441: 2, H0052: 2 Ala-84 to Tyr-93, H0090: 2, L0774: 2 Ser-173 to Arg-180, L0666: 2, L0777: 2, L0577: 2 Pro-200 to Leu-205, S0134: 1, L0415: 1 Ile-228 to Asp-233, H0318: 1, H0327: 1 Glu-271 to Cys-281, H0563: 1, S0050: 1 Glu-289 to Cys-304, H0594: 1, H0266: H0252: 1, H0644: H0264: 1, S0438: 1 L0369: 1, L0763: 1 L0369: 1, L0763: 1 |
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| | 114208, | 119300, | 120620, | 120620, | 120920, | 134370, | 134370, | 134370, | 134580, | 145260, | 150310, | 150310, | 179820, | 191045, | 600105, | 600759, | 601494, | 601975 | · | | | | |
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| 232552 | | , AR | ,/AR | AR | <u>;</u> | <u>H.</u> | ŎH. | ĎH. | ŎH OH | ĎΉ | HOH | 803 | ទ្ធ | E N | HOH | Ĕ M | H | HOH | Ĕ | H | H0/ | EH EH | H07 |
| | His-152 to Lys-160, Glv-276 to Ser-281 | Ser-376 to Asp-383, | Arg-389 to Gly-400, AR104: | Ala-512 to Ser-529, | Asp-576 to Thr-581, | Gly-619 to Asp-624. H0699: 9, H0716: 8, | | | | | | • | | | | | | | | | | | |
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| H0691: 2, H0521: 2 | S0028: 2, L0744: 2, | L0758: 2, S0031: 2, | H0542: 2, 1 | H0662: 1, | H0580: 1, | H0619: 1, 1 | S6016: 1, S | H0455: 1, H0333: | H0486: 1, H0194: 1 | H0263: 1, | H0545: 1, | | H0012: 1, | T0006: 1, | L0456; 1, H0038; 1 | H0616: 1, | H0059: 1, S0038: 1 | H0561: 1, | | - | L0527: 1, | 1,0665: 1, | H0697: 1, | S0374: 1, H0726: | H0520: 1, | H0435: 1, | H0666: 1, | S0390: 1, S0206: 1 | L0743: 1, |
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| | Phe-59 to Glu-68, Lys-105 to Gly-111. | |
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| 602403 | 125270, 125270, | 128100, | 137350, | 191100, | 215700, | 223360, | 268900, 601850 | | | | | | | | | | | | 129900, | 154276, | 171050, | 171060, | 602136, | 60213 | 602136, | 602447 | _ |
| | 9q34 | | | | | | | | | | | | | , | | | | | 7921.1 | | | | | | | | |
| | L0751: 11, L0777: 9, 1,0809: 6. H0100: 4. | H0112: 3, L0783: 3, | L0747: 3, H0644: 2, | H0670: 2, L0755: 2, | S0040: 1, H0013: 1, | H0031: 1, L0794: 1, | H0144: 1 and L0759: 1. | H0641: 1, L0775: 1 | and H0659: 1. | | | | | | | | | | S0358: 6, L0748: 5, | L0777: 5, H0171: 4, | H0341: 4, S0408: 4, | Asp-132 to Gly-137, H0597:-4, H0620: 4, | Val-139 to Leu-144, L0754: 4, L0749: 4, | Lys-165 to Gly-171, S0360: 3, H0596: 3, | Ser-191 to Ala-198. H0545: 3, H0494: 3, | S0210: 3, L0769: 3, | S0374: 3, H0659: 3, |
| | Ile-1 to Pro-10, Pro-36 to Glu-43 | Are-92 to Cys-98, | Glu-106 to Lys-115, | | | | | Pro-8 to Asp-23, | Leu-27 to Ser-38, | Thr-40 to Arg-69, | Arg-73 to Asp-97, | Asp-108 to Asp- | 126, | Glu-135 to Ile-159, | Pro-176 to Ala-181, | Lys-184 to Asp-192, | Val-202 to Arg-210, | Thr-215 to His-221. | Ala-1 to Ala-8, | Pro-26 to Tyr-32, | Gly-48 to Pro-53, | Asp-132 to Gly-137, | Val-139 to Leu-144, | Lys-165 to Gly-171, | Ser-191 to Ala-198. | | |
| | 2949 | | | | | | | 2950 | | | | | | | | | | | 2951 | | | | | | | | |
| | 2 - 583 | | | | | | | 155 - 844 | | | | | | | | | | | 2-652 | | | | | | | | |
| | 774 | | | | | | | 775 | | | | | | | | | | | 776 | | | | | | | | |
| | 1052158 | | | | | | | 1052261 | | | | | | | | | | | 1052553 | | • | | | | | | |
| | HPYSC40 | | | | | | | HDDMT56 | a company | | | | | | | | | | HVV A WOO | 20 11 17 1 17 | | | | | | | |

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| S0040: 2, H0657: 2, | H0661: 2, S0376: 2, | S0007: 2, S0045: 2, | S0046: 2, S0222: 2, | 10431: 2, H0013: 2, | 10530: 2, H0014: 2, | 10266: 2, H0328: 2, | 10644: 2, H0100: 2, | .0771: 2, L0662: 2, | .0803: 2, L.0438: 2, | 10547: 2, S0126: 2, | S0330: 2, L0743: 2, | .0439: 2, L0751: 2, | H0445: 2, S0026: 2, | 50276: 2, S0196: 2, | H0265: 1, T0049: 1, | 0218: 1, H0656: 1, | H0638: 1, S0356: 1, | S0444: 1, S0410: 1, | H0580: 1, S0132: 1, | 10393: 1, S0300: 1, | 10586: 1, L0622: 1, | H0486: 1, T0109: 1, | S0280: 1, H0599: 1, | S0010: 1, S0049: 1, | H0204: 1, H0327: 1, | H0123: 1, H0051: 1, | H0275: 1, H0083: 1, | H0629: 1, H0271: 1, | H0188: 1, H0290: 1, |
| | | | <u>01</u> | | <u> </u> | 114 | ببر | <u> </u> | <u> </u> | . | <u>0</u> | , , . | , 1 | <u> </u> | 114 | <u>01</u> | <u> </u> | <u>o</u> | <u> </u> | <u> </u> | <u>щ</u> | <u>.</u> | Si | S | . <u>***</u> . | بللو | <u>بلر</u> | <u>.14</u> | 4 |
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| S0003: 1, T0006: 1, | H0031: 1, H0628: 1, | H0673: 1, H0068: 1, | 0598: 1, H0163: 1, | H0090: 1, H0040: 1, | 0551: 1, H0412: 1, | L0370: 1, H0641: 1, | 0647: 1, L0520: 1, | .0762: 1, L0770: 1, | 0667: 1, L0764: 1, | L0521: 1, L0794: 1, | 0766: 1, L0650: 1, | _0774: 1, L0775: 1, | | .0653: 1, L0776: 1, | .0659: 1, L0540: 1, | 0384: 1, L0383: 1, | L0792: 1, H0520: 1, | (0519: 1, H0689: 1, | (0682: 1, H0666: 1, | H0648: 1, H0672: 1, | S0380: 1, H0518: 1, | H0521: 1, H0522: 1, | 0404: 1, S0406: 1, | H0187: 1, L0612: 1, | .0750: 1, L0731: 1, | .0759: 1, L0588: 1, | .0366: 1, H0136: 1, | S0192: 1, S0194: 1, | H0543: 1 and H0422: 1. |
| 08 |)H | H | H |)H | H | <u>3</u> | <u>H</u> | 7 | <u> </u> | <u>고</u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | ĭ | <u> </u> | ı | 耳 | | <u>II</u> | Š | H | S | <u> </u> | | | <u>. </u> | S | <u> </u> |
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| 1 | | AR104: 3, AR033: 3, AR096: 3, AR055: 3. | | S0354: 14, S0360: 11, | H0435: 11, S0356: 9, | H0039: 9, L0666: 9, | L0751: 9, H0553: 8, | H0506: 8, H0689: 7, | L0748: 7, H0661: 6, | L0659: 6, L0665: 6, | S0376: 5, L0743: 5, | H0484: 4, H0483: 4, | H0059: 4, L0764: 4, | L0771: 4, L0662: 4, | L0809: 4, S0330: 4, | H0615: 3, H0688: 3, | H0040: 3, L0763: 3, | L0364: 3, L0774: 3, | L0663: 3, H0683: 3, | H0670: 3, H0672: 3, | L0750: 3, L0731: 3, | H0663: 2, H0549: 2, | H0046: 2, H0014: 2, | H0124: 2, H0494: 2, | S0450: 2, L0374: 2, | L0765: 2, L0804: 2, | L0378: 2, L0653: 2, |
| Gly-156 to Met-161, AR039 | Cys-186 to Lys-197. ARU89: | | | | | | | | | | | * | | | | | | | | | | | | | | | |
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| 593: | 10658; 2, S0152; 2, | 0439: 2, L0779: 2, | .0601: 2, H0294: | S0430: 1, H0675: | H0370: | H0587: 1, H0642: 1 | 204 | 738: | 3024 | H0356: 1, H0375: 1, | .0194: 1, T0023: 1 | .0483: 1, H0033: | l, H0644: 1 | 10264: 1, H0488: | H0413: 1, H0334: 1 | 306: | S0440: 1, H0647: 1 | 10646: 1, H0652: | .0373: 1, L0646: | L0803: 1 | L0375: 1, L0376: 1, | 0658 | 0528 | 0374 | H0690: 1, H0682: | H0648: 1, S0328: | H0478: 1, S0432: | .0744: 1, L0754: | .0747: 1, L0749: 1 |
| , H0 | 2. S0 | , Si | 2, H0 | l, H0 | 1, HC | 1, H(| 1, HC | 3,1 | 1, H | 1, H | 1, T | 1, H(| 1, H | 1, H | 1, H | 1, S(| 1, H | 1, H | 1, L | 1,1 | 1,1 | 1, L | 1,1 | 1, S | : 1, F | : 1, S | : 1, S | 1,T | 1,1 |
| 0529: 2, H0593: 2, | 558: | 39: | 301: 3 | 130: | 576: | 587: | 66 | 940 | 620: | 356: | 194: | 483: | 10424: 1 | 264: | 413: | 352: | 440 | 646 | 373: | 0648: 1 | .0375: 1 | 3806 | 382: | 664 | 0690 | 0648 | 0478 | 744 | 3747 |
| 3 | ŎH | 7 | <u>§</u> | S04 | ŬΗ | Ë | 2 | <u>Š</u> | H | EH. | <u> </u> | 3 | 出 | 丑 | H | 8 | 80 | H | ם | <u> </u> | 걸 | 7 | <u> </u> | 걸 | Ĭ | 耳 | 王 | 그 | ב |
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| L0755: 1, L0759: 1, L0596: 1, H0543: 1, | S0358: 4, L0752: 4, | HOULE: 3, FIOZOG: 3, LO740: 3, LO731: 3, | H0615: 2, L0772: 2, | J0776: 2, L0565: 2, | JO605: 2, LO608: 2, | .0362: 2, H0423: 2 | H0556: 1, S0114: 1 | 10134: 1, H0341: 1 | H0255: 1, H0664: 1 | H0638: 1, S0356: 1 | H0676: 1, H0441: 1 | H0392: 1, H0613: 1 | 10333: 1, H0632: 1 | ,0021: 1, S0049: 1, | H0251: 1, H0327: 1 | H0572: 1, L0471: 1 | H0271: 1, H0252: 1 | 70023: 1, H0135: 1 | H0591: 1, H0560: 1 | S0150: 1, L0637: 1, | .3904: 1, L0764: 1 | .0364: 1, L0803: 1 | .0661: 1, L0647: 1, | .0790: 1, L0663: 1, | | H0547: 1, H0690: 1 |
| | | <u> </u> | <u> </u> | <u> </u> | <u>,</u> | | <u> </u> | <u>v</u> | <u>.14.</u> | <u> </u> | <u> </u> | <u>:44</u> | <u>H</u> | <u> </u> | <u>;4:</u> | ਜ | <u> </u> | E | <u>ш</u> | S | <u>.</u> | <u> </u> | <u> </u> | | 프 | H |
| | 2953 | | | | | | | | | | | | | | | | | <u>-</u> - | | | | | | | | |
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| H0670: 1, H0672: 1, H0539: 1, S0406: 1, H0555: 1, L0356: 1, L0742: 1, L0748: 1, L0746: 1, L0779: 1, L0758: 1, H0445: 1 and S0026: 1. | H0619: 3, H0662: 2, H0135: 1, H0593: 1 and H0658: 1. | L0789: 4, H0660: 2, S0278: 1, H0250: 1, T0010: 1, H0163: 1, H0551: 1, L0657: 1, L0777: 1, L0755: 1 and L0731: 1. | H0341: 3, H0580: 2, S0049: 2, S0422: 2, T0049: 1, H0656: 1, H0486: 1, H0581: 1, H0266: 1, H0581: 1, H0266: 1, H05494: 1, S0438: 1, H0704: 1, S0406: 1, L0754: 1, L0757: 1, L0757 |
|--|---|---|--|
| | Pro-12 to Asp-20, Leu-30 to Glu-37, Lys-62 to Asp-70, Met-99 to Asp-109, Ala-115 to Asn-122, Gly-135 to Asp-141. | Gly-9 to Thr-24. | Gln-17 to Gly-27, Glu-39 to Asp-52, Lys-79 to Asn-84. |
| | 2954 | 2955 | 2956 |
| | 248 - 670 | 623 - 1033 | 120 - 431 |
| | 779 | 780 | 781 |
| | 1052728 | 1052874 | 1053037 |
| · | HPDRP02 | HMALJ21 | HLYAR61 |

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| | 131950, | 153840, | ,699009 | 601282, | 601455, | 602232 | | | | | | | | | | | | | | | | | | | | | | | |
| | 8q24 | • | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H0445: 1 and S0276: 1. | H0616: 5, L0758: 4, | .0362: 4, H0529: 3, | .0803: 3, L0809: 3, | H0592: 2, L0804: 2, | J0527: 2, L0665: 2, | H0547: 2, L0439: 2, | J0754: 2, L0777: 2, | .0485: 2, S0114: 1, | 10657: 1, H0341: 1, | 30420: 1, S0442: 1, | S0358: 1, S0376: 1, | H0675: 1, H0580: 1, | H0632: 1, S0414: 1, | H0013: 1, H0706: 1, | • | H0428: 1, H0622: 1, | H0090: 1, H0038: 1, | H0551: 1, H0412: 1, | S0450: 1, S0438: 1, | 10647: 1, L0763: 1, | .0770: 1, L0769: 1, | .0761: 1, L0764: 1, | L0794: 1, L0776: 1, | .0659: 1, L0526: 1, | .0783: 1, L.0666: 1, | .0663: 1, L0438: 1, | H0690: 1, H0659: 1, | H0670: 1, H0672: 1, | H0710: 1, H0436: 1, |
| | | | | | . Н | | | | | | <u></u> | . Н | н. | | <u></u> | <u> </u> | <u> </u> | | <u>03</u> | | - | | | | <u> </u> | <u>. P.</u> | <u>141</u> | <u>.</u> | <u></u> |
| | 2957 | | | | | | - | | | | _ | | | | | | | | | . | | | | | | | | | |
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| S0028: 1, L0779: 1 and | L0362: 6, H0486: 3, S0406: 3, L0809: 2, S0434: 2, H0624: 1, H0663: 1, S0376: 1, S0360: 1, H0329: 1, S0046: 1, H0124: 1, H0050: 1, L0483: 1, H0591: 1, S0422: 1, L0763: 1, L0638: 1, L0763: 1, L0663: 1, L0776: 1, L0655: 1, L0776: 1, L0665: 1, L0657: 1, L0666: 1, L0657: 1, L0666: 1, L0657: 1, L0668: 1, H0520: 1, H0519: 1, H0520: 1, H0548: 1, H0521: 1, H0648: 1, L0777: 1, L0752: 1, L0777: 1, L0752: 1, | H0506: 1 and H0352: 1. L0493: 10, L0748: 6, L0601: 5, H0615: 4, L0741: 4, H0052: 3, L0774: 3, L0776: 3, |
| | Ser-9 to Gln-19. | Ala-1 to Arg-6, Gly-45 to Gly-51, Ser-53 to Lys-69, Asp-89 to Ser-100, |
| | 2958 | 2959 |
| | 485 - 697 | 210 - 1289 |
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| | 1053171 | . 1053173 |
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| .0754: 3, L0749: 3, | 0222: 2, H0318: 2, | H0620: 2, S0422: 2, | .0500: 2, L0769: 2, | L0375: | L0514: 2, L0793: 2, | S0126: 2, S6024: 1, | H0484: 1, H0125: 1, | H0393: 1, H0586: 1, | HO497: 1, H0331: 1, | H0574: 1, L0622: 1, | H0013: 1, T0082: 1, | S0010: 1, L0563: 1, | H0597: 1, L0471: 1, | H012: 1, H0356: 1, | H0328: 1, H0428: 1, | H0039: 1, T0006: 1, | H0424: 1, T0067: 1, | H0487: 1, H0059: 1, | S0144: 1, S0426: 1, | .0770: 1, L.5575: 1, | .0768: 1, L0794: 1, | .0499: 1, L0497: 1, | .0806: 1, L0805: 1, | .0783: 1, L0789: 1, | .0666: 1, L0663: 1, | .0664: 1, H0144: 1, | S0374: 1, L0438: 1, | H0547: 1, H0519: 1, | H0593: 1, H0658: 1, |
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| | | 108725, 120700, 133171, 136836, 145981, 147141, 164953, 188070, 601238, 601238, 6012477 |
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| | 2961 | 2962 |
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| | 786 | 787 |
| | 1053369 | 1053547 |
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| | | | 1p36.1-p35 116600, 118210, 120570, 120575, 121800, 133200, 138140, 138971, 171760, 171760, 172411, 185470, 230350, 255800, 600975, 600975, |
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| Pro-105 to Ala-123. S0420: 2, H0599: 2, H0620: 2, H0617: 2 | · + i | <u> </u> | <u> </u> | | | <u>.</u> | <u> </u> | <u></u> | | | | <u> </u> | | | | | <u> </u> | | <u> </u> | <u>i-l-i</u> | | <u></u> | <u>=</u> | S | | H | Ile-58 to Leu-63, S | Pro-65 to Val-74, F |
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| H0682: 1, H0684: 1, H0659: 1, H0670: 1, H0660: 1, H0648: 1, H0710: 1, H0521: 1, S0013: 1, H0696: 1, H0436: 1, S0028: 1, L0747: 1, L0786: 1, S0436: 1, L0591: 1, L0599: 1, S0026: 1, H0543: 1, H0422: 1 and S0424: 1. | S0250: 5, L0764: 4, H0457: 3, L0789: 3, H0543: 3, H0650: 2, L0717: 2, H0594: 2, L0800: 2, L0794: 2, L0800: 2, L0657: 2, L0809: 2, H0670: 2, H0521: 2, H0645: 2, H0656: 1, H0265: 1, S0354: 1, S0354: 1, H0550: 1, H0081: 1, H0012: 1, H0653: 1, S0364: 1, H0653: 1, H0663: |
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| | Glu-16 to Gly-33, Lys-63 to Lys-71, Asp-77 to Pro-82. |
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| H0494: 1, H0561: 1, H0509: 1, S0144: 1, S0344: 1, S0210: 1, L0667: 1, L0770: 1, L0771: 1, L0662: 1, L0803: 1, L0774: 1, L0806: 1, L0655: 1, L0783: 1, L0655: 1, L0664: 1, L0663: 1, H0519: 1, H0689: 1, H0660: 1, L0602: 1, H0436: 1, L0602: 1, H0436: 1, L0602: 1, S0031: 1, L0595: 1 and S0424: 1. | L0777: 5, L0748: 4, S0007: 2, L0764: 2, L0759: 2, L0750: 2, L0022: 1, H0431: 1, H0057: 1, H0581: 1, H0428: 1, L0768: 1, L0794: 1, L0768: 1, L0803: 1, L0768: 1, L0655: 1, L0657: 1, L0666: 1, L0783: 1, |
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| L0743: 1, L0740: 1, | L0751: 1, L0747: 1, | L0756: 1, H0445: 1, | L0599: 1, H0423: 1, | L0698: 1 and H0352: 1. | L0659: 10, L0439: 5, | L0378: 4, L0748: 4, | L0777: 4, H0657: 3, | L0662: 3, L0655: 3, | L0665: 3, S0428: 3, | H0658: 3, S0434: 3, | H0618: 2, S0474: 2, | S0049: 2, H0309: 2, | H0024: 2, H0412: 2, | S0002: 2, S0426: 2, | L0646: 2, L0771: 2, | L0774: 2, L0657: 2, | L0664: 2, H0696: 2, | S0027: 2, L0588: 2, | | H0556: 1, T0002: 1, | H0716: 1, S0116: 1, | H0661: 1, H0662: 1, | S0418: 1, S0442: 1, | S0444: 1, H0208: 1, | S0132: 1, S0476: 1, | H0619: 1, H0351: 1, | S6022: 1, H0549: 1, | S0220: 1, H0455: 1, | H0427: 1, S0280: 1, |
| | | | | | Lys-26 to Glu-41, | Lys-149 to Ala-156, | Arg-214 to Lys-225, L0777: 4, H0657: 3 | Ile-229 to Lys-235, | Glu-240 to His-245. | | | | | | | | | | | - | | | | | | | | | |
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| | H0544: 1 H0545: 1 H0643: 1 H0673: 1 H0673: 1 H0633: 1 L076: 1 L076: 1 L076: 1 L0384: 1 L0384: 1 L0384: 1 L0384: 1 L0384: 1 L0775: 1 L0384: 1 L0775: 1 L0775: 1 L0776: 1 L0774: 1 H0518: 1 L0744: | Met-31 to Arg-37, |
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| Thr-157 to Arg-176, 49, AR089: 49, AR053: Gly-183 to Tyr-188, 43, AR060: 33, AR061: Leu-229 to Asp-234,20, AR055: 19, AR104: Leu-275 to Lys-280, 18, AR033: 17 Thr-381 to Asn-386, L0751: 8, L0754: 8, | Asp-424 to Arg-434,L0769: 6, L0803: 6, L0748: 6, H0100: 5, H0435: 5, L0439: 5, L0758: 5, L0665: 4, L0747: 4, L0749: 4, | S0114: 3, H0619: 3, H0546: 3, H0457: 3, S0002: 3, L0637: 3, L0657: 3, H0658: 3, L0743: 3, L0777: 3, | L0780: 3, H0445: 3, S0040: 2, H0255: 2, H0645: 2, S0278: 2, H0024: 2, H0416: 2, H0030: 2, H0553: 2, H0135: 2, H0649: 2, L0770: 2, L0804: 2, | L0774: 2, L0805: 2, L0659: 2, H0659: 2, H0518: 2, H0555: 2, L0755: 2, L0757: 2, L0599: 2, L0603: 2, H0423: 2, H0265: 1, H0556: 1, L0460: 1, |
| Thr-157 to Arg-176, 49, AR089: Gly-183 to Tyr-188, 43, AR060: Leu-229 to Asp-234,20, AR055: Leu-275 to Lys-280, 18, AR033: Thr-381 to Asn-386, L0751: 8, L | Asp-424 to Arg-434. | | | |
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| Asp-85 to Ala-116, L0747: 10, L0005: 9, | 52. L0731: 6, L0776: 5, | L0758: 5, L0759: 5, | S0360: 4, L0770: 4, | L0771: 4, L0775: 4, | S0374: 4, L0756: 4, | L0763: 3, L0764: 3, | L0766: 3, L0806: 3, | L0751: 3, L0749: 3, | H0668: 3, H0543: 3, | H0295: 2, H0638: 2, | S0222: 2, S0210: 2, | L0662: 2, L0774: 2, | L0783: 2, L0792: 2, | H0144: 2, S0152: 2, | S0406: 2, L0748: 2, | L0750: 2, L0757: 2, | H0542: 2, H0624: 1, | H0171: 1, T0002: 1, | H0294: 1, S0218: 1, | S0430: 1, H0656: 1, | H0341: 1, H0661: 1, | H0228: 1, S0348: 1, | S0376: 1, S0444: 1, | S0408: 1, S0045: 1, | S0278: 1, H0431: 1, | H0586: 1, H0587: 1, | H0497: 1, H0486: 1, |
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| Asp-85 to Ala-116, | Phe-143 to Leu-152. | | · | | - \ | | | | | | | | | | | | | | | | | | | | | | |
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| H0599: 1, H0196: 1, | F0110: 1, H0327: 1, | H0009: 1, L0157: 1, | 10083: 1, H0375: 1, | H0594: 1, H0188: 1, | H0687: 1, S0003: 1, | H0252: 1, H0428: 1, | H0031: 1, H0553: 1, | H0400: 1, H0591: 1, | .0067: 1, H0264: 1, | H0059: 1, S0386: 1, | T0041: 1, H0494: 1, | H0625: 1, S0438: 1, | H0641: 1, H0646: 1, | S0144: 1, S0344: 1, | .0520: 1, L0769: 1, | .0638: 1, L0761: 1, | .0383: 1, L0666: 1, | .0664: 1, H0547: 1, | H0670: 1, S0328: 1, | S0146: 1, H0436: 1, | S3012: 1, L0744: 1, | .0740: 1, L0752: 1, | .0753: 1, H0445: 1, | H0653: 1 and H0667: 1. | AR096: 3, AR052: 2, | AR089: 2, AR060: 2, | | AR053: 1, AR055: 1, |
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| AR039: 0, AR104: 0 S044: 5, S0360: 4, S0408: 3, H0625: 3, H0641: 2, L0803: 2, S0374: 2, H0656: 1, H0662: 1, S0420: 1, S0442: 1, S0354: 1, S0376: 1, H0392: 1, H0427: 1, H0547: 1, H0660: 1, H0648: 1, H0672: 1, S0378: 1, S0192: 1, H0423: 1 and H0672: 1, H0423: 1 and | L0748: 19, S0372: 12, L0747: 12, L0750: 9, S0408: 7, L0752: 7, L0731: 7, L0758: 7, H0031: 6, L0439: 6, L0740: 6, L0769: 5, L0757: 5, L0471: 4, L0065: 4, H0672: 4, H0543: 4, H0341: 3, H0318: 3, H0616: 3, L0803: 3, L0771: 3, H0547: 3, H0689: 3, H0658: 3, S0406: 3, H0658: 3, L0779: 3, |
| <u> </u> | Leu-25 to Arg-30, Glu-41 to Thr-56, Met-74 to Asn-81, Tyr-108 to Thr-116, Asp-126 to Gly-131, Met-141 to Asp- 149, Pro-170 to Tyr-184. |
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| H0013: 1, L0021: H0599: 1, T0082: | S0474: 1, H0581: | T0110: 1, H0597: 1, | H0327: 1, H0545 | H0178: 1, H0373: 1, | S0320: 1, L0171: | H0266: 1, H0084 | H0271: 1, H0687 | S0003: 1, S0214: 1, | H0644: 1, H0181: 1 | L0055: 1, L0455: | H0163: 1, H0040 | H0551: 1, H0412: 1, | S0038: 1, H0100: | T0041: 1, H0494: 1 | H0560: 1, H0561 | H0509: 1, S0150: | L0598: 1, H0529: 1 | L0763: 1, L0637 | L0646: 1, L0804: | L0774: 1, L0776: | L0659: 1, L0526: | L0518: 1, L0519: | L0789: 1, L0666: | S0374: 1, H0519: | H0684: 1, H0660: | H0666: 1, H0648: 1 | H0522: 1, S0146: 1, |
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|---|--|---|---|
| | Glu-12 to Thr-27, Met-45 to Asn-52, Tyr-79 to Thr-87, Asp-97 to Tyr-103, Met-120 to Asp- 128, Pro-149 to Tyr-163. | Thr-8 to Ala-15, Lys-29 to Ser-39, Lys-44 to Asn-52, Gly-61 to Pro-68. | |
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| | 311 - 799 | 812 1446 - 661 | 889 - 305 |
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| | 1054813 | 1055012 | 1055174 |
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| S0422: 1, L0770: 1, L0662: 1, L0804: 1, L0776: 1, L0666: 1, S0374: 1, S0310: 1, H0520: 1, S0126: 1, L0748: 1, L0439: 1, L0747: 1 and L0757: 1. | H0046: 13, L0439: 6, S0360: 3, H0024: 3, L0769: 3, L0749: 3, H0624: 2, H0624: 2, H0629: 2, H0629: 2, H0629: 1, H0649: 1, H0664: 1, H0449: 1, S0420: 1, S0476: 1, S04007: 1, S0476: 1, L0717: 1, H0013: 1, H0156: 1, L0738: 1, H0178: 1, H0018: 1, S0208: 1, H0018: 1, S0208: 1, H0018: 1, S0208: 1, H0018: 1, H0627: 1, H0018: 1, H0626: 1, H0026: 1, H0026: 1, H0026: 1, H0026: 1, S0036: 1, H0038: 1, H0026: 1, S0038: 1, H0026: 1, S0038: 1, H0026: 1, S0038: 1, H0026: 1, S0038: 1, S003 |
| | Gln-2 to Asp-7, Lys-34 to Arg-53, Gly-61 to Glu-70. |
| | 914 2989 |
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| | 134790, 191044, 600040, 600138 |
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| | 19q13.4 |
| S0002: 1, L5566: 1, L0803: 1, L0651: 1, L0776: 1, L0789: 1, S0330: 1, S0332: 1, H0704: 1, S0406: 1, L0740: 1, L0780: 1, L0758: 1, L0759: 1, H0595: 1, S0434: 1, L0595: 1, S0434: 1, H0595: 1, S0434: 1, H0595: 1, S0434: 1, | |
| | Ala-1 to Phe-8, Glu-16 to Gly-52, Ser-64 to Glu-80, Leu-94 to Lys-99, Ser-123 to Glu-136, His-157 to Ser-164, Lys-179 to Pro-190, Arg-220 to Glu-226, Phe-244 to Arg-252, Lys-277 to Thr-288, Glu-305 to Gly-310, Glu-305 to Glu-334, Pro-390 to Ala-401, Pro-411 to Glu-417. |
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| L0002: 1, L0717: 1, | H0369: 1, H0455: 1, | H0438: 1, H0642: 1, | 10331: 1, H0244: 1, | H0156: 1, S0010: 1, | 10052: 1, L0118: 1, | H0051: 1, S0048: 1, | S0051: 1, T0010: 1, | • | H0674: 1, T0027: 1, | .0435: 1, L0369: 1, | .0662: 1, L0658: 1, | .0659: 1, L0789: 1, | .0790: 1, L0791: 1, | .0792: 1, L0666: 1, | F0068: 1, H0519: 1, | S0122: 1, H0672: 1, | H0539: 1, S0260: 1 and | L0592: 1. | | | AR033: 1, AR053: 1, | AR061: 1, AR104: 0 | L0754: 7, L0748: 4, | S0007: 3, L0771: 3, | L0749: 3, L0750: 3, | L0600: 3, L0717: 2, | H0618: 2, H0046: 2, | H0561: 2, S0422: 2, |
| | | <u>E</u> . | <u>;E</u> : | 正 | <u>:::</u> | <u>. 11</u> | <u>.s</u> | <u>.</u> 8 | <u>. 114</u> | | | _= | Fred | | | <u> </u> | ш | | Pro-13 to Gly-25, | | His-87 to Trp-93, | 7. | • | | | | | |
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| Leu-244 to Glu-258, L0717: 3, H0550: 3, | Lys-264 to Pro-281, H0251: 3; H0622: 3, | 349, L0646; 3, L0794; 3, | L0438: 3, L0757: 3, | L0785: 2, S0212: 2, | S0358: 2, S0360: 2, | H0013: 2, H0052: 2, | H0150: 2, S0003: 2, | H0644: 2, H0059: 2, | L0520: 2, L0766: 2, | L0804: 2, L0806: 2, | L0659: 2, H0520: 2, | H0593: 2, H0658: 2, | S0330: 2, H0521: 2, | L0747: 2, L0750: 2, | L0756: 2, L0608: 2, | H0422: 2, H0170: 1, | H0171: 1, H0149: 1, | H0713: 1, H0125: 1, | S0418: 1, S0376: 1, | S0408: 1, H0580: 1, | S0045: 1, H0549: 1, | S0222: 1, H0612: 1, | H0600: 1, H0586: 1, | H0574: 1, H0632: 1, | L0021: 1, H0575: 1, | H0004: 1, L0109: 1, | L0738: 1, H0530: 1, |
| Leu-244 to Glu-2 | Lys-264 to Pro-2 | Glu-331 to Leu-349. | | | | | | - | | | | | | | | | | | | | | | | | | | |
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| | · | 22q11.23 |
| L0041: 1, N0006: 1, H0014: 1, L0163: 1, S0051: 1, H0266: 1, S0214: 1, H0615: 1, H0428: 1, T0006: 1, H0674: 1, H0068: 1, S0036: 1, H0616: 1, H0551: 1, H0100: 1, H0494: 1, H0560: 1, L0770: 1, L0639: 1, L0770: 1, L0639: 1, | LOG29: 1, LOG57: 1, LOG29: 1, LOG57: 1, LOS29: 1, LOG65: 1, ROG374: 1, HO519: 1, HO670: 1, HO666: 1, HO670: 1, HO666: 1, ROG380: 1, SO404: 1, SO406: 1, HO436: 1, HO478: 1, HO627: 1, SO028: 1, LO777: 1, LO731: 1, SO196: 1, HO542: 1, HO423: 1, SO424: 1, LOG00: 1 and HO352: 1. | L0754: 95, L0755; 38, 22q11.23 H0545: 20, H0617: 14, |
| | | Glu-35 to Pro-41, Ala-55 to Arg-67, |
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| Ala-82 to Lys-87. L0751: 12, H0622: 11, | Glv-94 to Asp-100, L0731: 10, L0659: 8, | | Asp-185 to Trp-190, S0360: 6, H0544: 5, | Gly-193 to Asp-199, L0764: 5, L0748: 5, | Leu-247 to Trp-252, H0546: 4, L0750: 4, | Pro-278 to Asp-283, L0780: 4, L0603: 4, | Arg-395 to Phe-402, H0620: 3, H0644: 3, | Pro-404 to Asp-410, H0606: 3, H0059: 3, | | H0684: 3, H0618: 2, | H0086: 2, H0181: 2, | L0644: 2, L0375: 2, | L0666; 2, L0664: 2, | L0744; 2, L0747; 2, | L0779: 2, L0752: 2, | L0757: 2, L0758: 2, | L0605: 2, H0624: 1, | H0171: 1, H0661: 1, | H0662: 1, S0046: 1, | H0549: 1, H0251: 1, | H0012: 1, T0003: 1, | H0039: 1, H0553: 1, | H0316: 1, H0040: 1, | H0477: 1, S0352: 1, | L0763: 1, L0769: 1, | ` | L0772: 1, L0773: 1, | L0648: 1, L0807: 1, |
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| | 116806, 120120, 120120, 120120, 120436, 120436, 138320, 182280, 600163 | |
| | 3p21.3 | |
| L0658: 1, L0663: 1, H0658: 1, S0332: 1, H0555: 1, L0749: 1 and L0597: 1. | L0748: 5, L0747: 5, L0766: 3, L0439: 3, L0749: 3, L0752: 3, L0772: 2, L0763: 2, L0772: 2, L076: 2, L0758: 2, L0605: 2, H0580: 1, S0222: 1, L0022: 1, L0157: 1, H0014: 1, H0622: 1, H0617: 1, H0640: 1, H0616: 1, L0435: 1, L0598: 1, L0764: 1, L0773: 1, L0662: 1, L0773: 1, L0662: 1, L0773: 1, L0662: 1, L0773: 1, L0529: 1, L0773: 1, L0529: 1, L0773: 1, L0742: 1, L0779: 1, L0777: 1, L0779: 1, L0777: 1, L0779: 1, L0777: 1, L0759: 1, L0777: 1, | L0439: 13, H0424: 8, |
| | | Lys-18 to Glu-24, |
| | 2994 | 2995 |
| | 807 - 145 | 1845 - |
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| | 1055446 | 1055467 |
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| Leu-45 to Ile-54, H0547: 8, L0751: 7, | | Val-211 to Ser-218. HUU38: 3, E27/4: 3, L066: 3, E066: 3, | L0605: 3, H0543: 3, | H0423: 3, H0624: 2, | S0418: 2, L0005: 2, | S0007: 2, H0208: 2, | S0132: 2, H0013: 2, | T0010: 2, H0290: 2, | H0213: 2, H0494: 2, | L0766: 2, L0659: 2, | L0663: 2, L0665: 2, | L0438: 2, H0520: 2, | H0682: 2, L0743: 2, | L0748: 2, L0779: 2, | L0758: 2, L0592: 2, | H0265: 1, S0040: 1, | H0295: 1, S0218: 1, | H0657: 1, H0656: 1, | S0001: 1, H0402: 1, | H0459: 1, S0420: 1, | S0046: 1, H0351: 1, | H0602: 1, H0586: 1, | L0622: 1, H0101: 1, | S0280: 1, H0599: 1, | H0575: 1, T0082: 1, |
| 1177 Let | Pro | Va | | | | | | | | | | | | | | | | | | | | | | | |
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| H0618: 1, H0052: 1, | H0309: 1, T0110: 1, | H0545: 1, H0046: 1, | H0041: 1, H0050: 1, | 4: 1, H0057: 1, | H0051: 1, H0271: 1, | H0416: 1, H0188: 1, | 2: 1, H0286: 1, | 2: 1, H0615: 1, | 6: 1, H0418: 1, | H0606: 1, H0674: 1, | .0455: 1, H0124: 1, | H0068: 1, H0090: 1, | 0: 1, H0616: 1, | 7: 1, H0264: 1, | H0488: 1, H0413: 1, | 3: 1, H0059: 1, | L0351: 1, T0041: 1, | 5: 1, H0641: 1, | H0538: 1, S0210: 1, | .0369: 1, L0520: 1, | 0763: 1, L0770: 1, | 0771: 1, L0662: 1, | 0649: 1, L0522: 1, | 0375: 1, L0655: 1, | .0367: 1, L0664: 1, | H0689: 1, H0435: 1, | H0659: 1, H0648: 1, | 1: 1, S0380: 1, | H0521: 1, S0168: 1, |
| H061 | H030 | H054 | H004 | H002 | H005 | H041 | H029 | H025 | 1000 | 090H | 1045 | 900H | H004 | 1006 | H048 | H062 | 1035 | 8030 | H053 | T036 | 9/0T | 1707 | 1064 | 17037 |)T036 | 890H | H065 | H065 | H052 |
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| | Val-7 to Glu-20, Pro-99 to Lys-105, Glu-113 to Val-119, Ser-136 to Trp-142, Ala-159 to His-164. | Arg-44 to Val-54. |
| | 2996 | 2997 |
| | 408 - 1364 | 1-1518 |
| | 821 | 822 |
| | 1055480 | 1055582 |
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| · | 16p13.3 |
| L0731: 5, H0038: 3, L0766: 2, H0683: 2, H0670: 2, H0660: 2, L0779: 2, L0749: 2, H0583: 1, S0420: 1, S0360: 1, H0486: 1, H0156: 1, H0599: 1, H0581: 1, H0597: 1, H0647: 1, S0210: 1, L0794: 1, L0804: 1, H0436: 1, S027: 1, L0596: 1, L0485: 1 and | L0769: 3, H0484: 1, H0546: 1, H0178: 1, H0553: 1, S0366: 1, L0770: 1, L0761: 1, L0772: 1, L0372: 1, L0374: 1, L0645: 1, L0771: 1, L0766: 1, L0653: 1, L0666: 1, L0664: 1, H0670: 1, S0406: 1, L0777: 1, L0601: 1 and S0446: 1. |
| | Trp-8 to Gly-16, Ala-18 to Ala-26, His-28 to His-41, Pro-79 to Glu-85. |
| 2998 | 2999 |
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| | 9.14.8.9.2.6.6.6.6.6. | Ala-27 to Lys-35, Arg-63 to Ile-70, Tyr-100 to Ala-105, Ser-159 to Thr-168. |
| | 3000 | 3001 |
| | 2 - 1129 | 2 - 1957 |
| | 825 | 826 |
| | 1055899 | 1056000 |
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| S0212: 1, S0442: 1, S0358: 1, S0376: 1, S0444: 1, S0360: 1, L0717: 1, H0587: 1, H0427: 1, H0575: 1, H0596: 1, H0546: 1, S0003: 1, H0615: 1, H0644: 1, H0646: 1, H0644: 1, H0646: 1, L0774: 1, L0809: 1, L0774: 1, L0809: 1, L0519: 1, L0788: 1, L4501: 1, L0665: 1, S0374: 1, H0650: 1, H0648: 1, H0651: 1, S0328: 1, H0639: 1, S0404: 1, H0436: 1, L0750: 1, L0779: 1, S0434: 1, L0599: 1 and L0595: 1 | AR096: 2, AR060: 1, AR089: 1, AR039: 0, AR033: 0, AR104: 0, AR055: 0, AR061: 0 L0747: 16, L0758: 8, L0751: 7, L0774: 6, H0617: 5, L0803: 5, L0809: 5, L0794: 4, |
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| | Asn-6 to Val-11. |
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| .0766: 4, L.0666: 4, | .0777: 4, L0581: 4, | H0265: 3, L0534: 3, | H0004: 3, L0764: 3, | H0682: 3, L0750: 3, | S0212: 2, S0418: 2, | S0358: 2, H0013: 2, | H0424: 2, H0181: 2, | H0616: 2, L0769: 2, | .0761: 2, L0775: 2, | L0655: 2, | 659: | L0665: 2, | H0547: 2, H0658: 2, | H0670: 2, H0660: 2, | L0749: 2, | .0752: 2, L0755: 2, | 0759: 2, L0589: 2, | JO608: 2, H0423: 2, | H0624: 1, H0170: 1 | 3685 | H0717: 1, H0738: 1, | H0341: 1, H0484: 1, | S0442: 1, S0360: 1 | H0393: 1, H0441: 1 | H0392: 1, H0415: 1 | H0587: 1, H0333: 1 | S0280: 1, H0156: 1 | H0599: 1, H0052: 1, | H0205: 1, H0150: |
| 100 | Š, | S, | ë, | ž, | , SQ | , H0 | 2, H0 | 2,10 | i, | 2 | 2 | 2 | 2, HC | 2, H(| 2, 10 | 2 | 7,1 | 2, HC | 1, H(| 1, H(| 1, H | 1, H | 1, S0 | 1, H | 1, H | 1, H | 1, H(| 1, H | 1, H |
| 66: 4 | 77:4 | 65:3 | 04:3 | 82: | 12:2 | 58: 2 | 124: 2 | 316: 2 | 61:2 | 0375: 2, I | 0657: 2,] | 0663: 2, 1 | 747: | 570: | 10648: 2, 1 | 152: | 759: 7 | 508: | 624: | 556: | 717: | 341: | 42 | 393: | 392: | 587: | 280: | 599: | 205: |
| 100 | 107 | H02 | <u>H</u> | H06 | S02 | S03 | H04 | HOK | 5 | <u> </u> | 2 | 2 | ÖH | HO | H | 5 | 8 | <u>Š</u> | Ř | 유 | HO | H | <u> </u> | 出 | H | 요 | <u>S</u> 0 | 유 | HO |
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| H0375: 1, H0615: 1, H0644: 1, H0606: 1, H0038: 1, H0412: 1, H0494: 1, S0422: 1, S0426: 1, L0763: 1, L0770: 1, L0639: 1, L0649: 1, L0768: 1, L0805: 1, L0776: 1, L0664: 1, H0144: 1, S0374: 1, H0593: 1, S0126: 1, H0689: 1, H0539: 1, S0404: 1, H0539: 1, L0780: 1, L0786: 1, L0780: 1, L0786: 1, L0780: 1, L0786: 1, H0668: 1, H0653: 1, H0668: 1, H0653: 1, H0668: 1, L0786: 1, L0780: 1, L0786: 1, L0780: 1, L0601: 1, H0668: 1, H0653: 1, H0668: 1, | L0754: 8, L0741: 5, L0748: 5, L0756: 5, H0550: 4, L0751: 4, L0758: 4, H0265: 3, H0556: 3, L0806: 3, S0418: 2, T0010: 2, S0002: 2, L0777: 2, L0755: 2, H0445: 2, L0603: 2, H0170: 1, |
| | Arg-13 to Glu-21, Ser-36 to Gly-57. |
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| | 154705, 193300, 193300, 227646, |
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| L0615: 1, H0159: 1, S0040: 1, H0483: 1, H0254: 1, S0410: 1, H0734: 1, H0549: 1, H0013: 1, H0618: 1, H0052: 1, H0618: 1, H0150: 1, H0408: 1, H0416: 1, H0188: 1, H0644: 1, S0366: 1, H0634: 1, T0067: 1, L0637: 1, L067: 1, L0763: 1, L067: 1, L077: 1, L0659: 1, L077: 1, L0659: 1, L0776: 1, L0659: 1, L0768: 1, L0659: 1, L0665: 1, H0144: 1, H0698: 1, S0126: 1, S0392: 1, L0779: 1, | L0757: 1 and S0436: 1. AR061: 3, AR039: 3, 3p25 AR089: 3, AR096: 2, AR053: 2, AR060: 2, AR055: 1, AR104: 1, |
| | LC Arg-7 to Thr-15, AI Leu-23 to Asp-30, AI Glu-37 to Val-48, AI Thr-54 to Pro-64, AI |
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| 253260, | 278720, | 601154, | 601253, | 602011 | 103950, | 120580, | 131440, | 139130, | 142680, | 176260, | 190450, | 200990, | 216950, | 600228, | 600414, | 600618, | 960209 | | | | | | | | | | | | |
| L | | | | | 12p13 | | | | | | | | | | | | | | | | | | | | | | | | |
| AR033: 1 | L0665: 4, H0659: 2, | H0553: 1, H0038: 1, | L0659: 1, L0777: 1, | L0758: 1 and L0601: 1. | H0556: 29, L0748: 28, | L0745: 18, H0620: 16, | Glu-177 to Lys-183, H0040: 15, L0595: 14, | Lys-226 to Lys-234, H0547: 13, S0358: 12, | Leu-252 to Gly-257, L0777: 12, H0559: 11, | S0046: 9, S0440: 9, | L0740: 9, H0265: 8, | H0494: 8, L0751: 8, | H0341: 7, S0408: 7, | L0646: 7, S0126: 7, | L0746: 7, L0747: 7, | H0543: 7, H0657: 6, | H0318: 6, H0052: 6, | H0135: 6, L0775: 6, | L0655: 6, L0666: 6, | H0519: 6, S0406: 6, | S0045: 5, H0486: 5, | H0581: 5, H0024: 5, | L0375: 5, L0659: 5, | H0520: 5, S0206: 5, | L0750: 5, L0752: 5, | T0002: 4, H0717: 4, | H0484: 4, S0376: 4, | H0497: 4, H0257: 4, | H0545: 4, H0644: 4, |
| Thr-103 to Thr-108. AR033: | | | | | Ala-95 to Ser-101, | Pro-103 to Asp-108, | Glu-177 to Lys-183, | Lys-226 to Lys-234, | Leu-252 to Gly-257, | Gln-293 to Ser-301. | | | | - | | | | | | | | | | | | | | | |
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| H0634: 4, H0087: 4, | L0766: 4, L0805: 4, | L0663: 4, H0144: 4, | H0134: 4, S0028: 4, | L0744: 4, L0757: 4, | L0596: 4, L0588: 4, | S0424: 4, S0116: 3, | H0663: 3, H0125: 3, | S0356: 3, S0410: 3, | H0619: 3, H0549: 3, | S0182: 3, H0009: 3, | H0123: 3, H0266: 3, | L0483: 3, T0006:.3, | H0100: 3, S0150: 3, | S0144: 3, S0344: 3, | L0637: 3, L0772: 3, | L0764: 3, L0662: 3, | L0649: 3, S0328: 3, | H0521: 3, L0754: 3, | L0758: 3, S0434: 3, | S0436: 3, L0592: 3, | L0593: 3, H0667: 3, | H0422: 3, H0352: 3, | H0624: 2, H0713: 2, | H0716: 2, H0656: 2, | H0662: 2, H0638: 2, | S0442: 2, S0360: 2, | H0208: 2, S0222: 2, | H0592: 2, L0623: 2, | H0013: 2, H0635: 2, |
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| 9: 2, F | 0: 2, F | H0288: 2, H0622: | 3: 2, E | 7: 2, F | 6: 2, S | 0: 2, F | 2: 2, H | 0: 2, L | 9: 2, L | 0641: 2, L | 8: 2, L | 0658: 2, L | 4: 2, H | 3: 2, H | 5: 2, H | 9: 2, H | 4: 2, L | 1: 2, L | 1: 2, H | 8: 2, H | 1: 1, H | H0686: 1, S0040: | H0295: 1, S0114: | H0583: 1, L | H0661: 1, S0418: |): 1, S(| 0: 1, S | 5. I, H | 1: 1, S |
| H019 | H051 | H028 | H055 | H061 | H005 | H056 | S042 | 1077 | 1063 | 1064 | 1.076 | 1,065 | 1066 | H059 | H043 | H053 | S301, | 1059 | 1.058 | H000 | H017 | H068 | H029 | H058 | 990H | S0420 | H058 | H064 | H035 |
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| 0550 | 0090 | 0587 | 0643 | 0101: | 0599 | 0036 | 10196 | 0115: | 10231 | 10046 | 10178 | .0471: 1, H0023: | 70003: 1, H0057: | 10201 | l, H0071: | 10355 | 6028 | 10687 | 10286 | S0022: 1 | 1061 | H0213: 1 | L0142: | 2005 | H0212: 1, H0708: | H0316: 1, H0038: | 1006 7 | H0264: 1 | H0272: 1, H0487: |
| 1, H | . 1, H | 1, H | : 1, H | : 1, H | : 1, H | : 1, H | : 1, H | : 1, T | 7. 1, E | 5: 1, F | : 1, F | . 1, H | : 1, H | t: 1, I | : 1, H | t: 1, I | 5: 1, 5 | 1: 1, F |): 1, F | 5:1,8 | 2: 1, 1 | | 40030: 1, 1 | 8: 1, 1 | 2: 1, 1 | 6: 1,] | H0063: 1, | 9: 1,] | 2: 1, |
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| H0433: 1, H0269: 1, | H0412: 1, H0413: 1, | H0623: 1, H0334: 1, | H0561: 1, S0450: 1, | H0633: 1, H0647: 1, | H0646: 1, S0002: 1, | .0369: 1, L0796: 1, | .5575: 1, L0771: 1, | .0363: 1, L0767: 1, | .5564: 1, L0388: 1, | .0776: 1, L0807: 1, | L0518: 1, L0383: 1, | _ | .0793: 1, L0532: 1, | .0665: 1, H0702: 1, | 30374: 1, H0693: 1, | .0438: 1, H0684: 1, | H0670: 1, H0672: 1, | H0651: 1, S0380: 1, | S0152: 1, H0696: 1, | S0044: 1, H0555: 1, | .0609: 1, S3012: 1, | | .0756: 1, L0755: 1, | J0731: 1, L0759: 1, | S0031: 1, H0444: 1, | L0584: 1, L0589: 1, | .0594: 1, L0601: 1, | H0136: 1, S0192: 1, | S0194: 1 and H0423: |
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| AR061: 7, AR089: 7, | AR053: 5, AR060: 5, | AR033: 4, AR096: 4, | AR055: 4, AR039: 3, | 4R104: 3, AR052: 0 | L0750: 33, L0588: 29, | H0341: 22, L0361: 22, | .0748: 19, H0657: 18, | H0648: 18, S0360: 17, | H0670: 17, S0358: 16, | HO170: 15, H0144: 14, | J0752: 14, L0757: 13, | _0758: 13, S0007: 12, | H0494: 12, L0520: 12, | H0543: 12, L0471: 11, | _0521: 11, L0767: 11, | H0659: 11, L0749: 11, | _0783: 10, H0305: 9, | S0046: 9, H0615: 9, | L0754: 9, H0624: 8, | H0014: 8, L0663: 8, | S0126: 8, H0672: 8, | L0591: 8, L0604: 8, | H0136: 8, S0045: 7, | H0031: 7, H0633: 7, | H0436: 7, S0028: 7, | H0125: 6, S0132: 6, | H0411: 6, H0392: 6, | H0574: 6, T0109: 6, | S0438: 6, L0762: 6, |
| 3006 Ser-48 to Asp-53, | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0517: 6, S0374: 6. | H0660: 6, S0378: 6, | S0027: 6, S0114: 5, | H0333: 5, H0486: 5, | H0545: 5, H0123: 5, | H0328: 5, H0412: 5, | H0413: 5, L0761: 5, | L0776: 5, L0659: 5, | L0526: 5, H0658: 5, | S0380: 5, H0134: 5, | L0740: 5, L0747: 5, | L0605: 5, L0362: 5, | H0422: 5, S0424: 5, | H0686: 4, S0342: 4, | S0376: 4, H0351: 4, | H0586: 4, L0586: 4, | H0250: 4, H0421: 4, | H0009: 4, L0163: 4, | H0083: 4, H0266: 4, | S0022: 4, H0617: 4, | H0135: 4, H0087: 4, | H0116: 4, H0100: 4, | L0662: 4, L0497: 4, | L0655: 4, L0527: 4, | L0657: 4, L0666: 4, | H0666: 4, S0044: 4, | H0576: 4, S3012: 4, | S3014: 4, L0756: 4, | H0171: 3, S6024: 3, | H0484: 3, H0669: 3, |
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| S0410: 3, H0497: 3, | H0632: 3, L0623: 3, | 10599: 3, H0575: 3, | 70048: 3, H0581: 3, | 10597: 3, H0039: 3, | H0163: | H0551: 3, T0067: | 3, H0509 | S0422: 3, H0529: 3, | 3, L0769 | : 3, L0768 | L0364: 3, L0375: 3, | : 3, L0782 | .0543: 3, H0682: 3, | 30328: 3, S0330: 3, | .0751: 3, S0031: 3, | 10445: 3, H0595: 3, | .0594: 3, S0026: 3, | 10665: 3, H0423: 3, | ,0600: 3, T0002: 2, | H0685: 2, H0294: 2, | S0218: 2, H0650: 2, | H0483: 2, H0255: 2, | H0671: 2, H0662: 2, | H0306: 2, H0402: 2, | S0420: 2, H0580: 2, | H0393: 2, H0438: 2, | H0592: 2, H0587: 2, | ,0622: 2, T0060: 2, | H0156: 2, H0098: 2, |
| S0410: | H0632 | H0599 | T0048: | H0597 | H0644 | H0551 | T0041 | S0422 | 1.0770 | L0648 | L0364 | 90807 | 1.0543 | S0328 | 10751 | H044 | 1.0594 | 990H | 1000 | H068 | 80218 | H048 | L90H | H030 | S0420 | H039 | H059 | 1.062 | H015 |
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| 70082: 2, S0010: 2, | S0182: 2, H0318: 2, | H0309: 2, T0115: 2, | r0110: 2, H0012: 2, | H0023: 2, H0024: 2, | H0057: 2, H0015: 2, | H0687: 2, H0286: 2, | S0003: 2, H0688: 2, | 10428: 2, T0006: 2, | 0036: 2, H0090: 2, | H0040: 2, H0059: 2, | H0625: 2, H0646: 2, | S0210: 2, L0598: 2, | .0763: 2, L0500: 2, | .0501: 2, L0549: 2, | .0803: 2, L0376: 2, | .0653: 2, L0542: 2, | H0547: 2, H0214: 2, | H0187: 2, S0392: 2, | S0390: 2, L0742: 2, | 10444: 2, L0596: 2, | .0589: 2, L0590: 2, | L0581: 2, L0599: 2, | .0603: 2, H0668: 2, | H0653: 2, S0192: 2, | H0542: 2, S0452: 2, | H0506: 2, L0615: 1, | H0394: 1, H0159: 1, | S0134: 1, H0583: 1, | H0656: 1, L0760: 1, |
| Ţ | S | <u>i4i</u> | <u> </u> | <u> </u> | <u>. Hi</u> | <u>. 11 </u> | <u>S</u> | <u> 11</u> | S | <u>ili</u> | <u>i:Li</u> | S | <u>.</u> | | <u>.</u> | . | <u> </u> | 프 | S | <u>;;;</u> | ᅼ | | . 🛁 | <u> </u> | <u>æ</u> | 正 | 正 | <u>S</u> | 22 |
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| 30116: 1, | 10661: 1, | H0664: 1, | S0444: 1, | H0489; 1, | S0278: 1, | H0441: 1, | T0040: 1, | H0069: 1, | H0209: 1, | H0085: 1, | H0231: 1, | H0327: 1, H0546: 1, | H0081: 1, | H0082: 1, | S0051: 1, | H0375: 1, | H0188: 1, | H0112: 1, | H0048: 1, H0606: 1, | H0032: 1, | H0169: 1, | H0068: 1, | H0316: 1, | H0634: 1, H0062: 1, | H0477: 1, | H0488: 1, S0038: 1, | S0448: 1, | S0464: 1, L0065: 1, | H0131: 1, H0130: 1, |
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| L0785: 1, S0116: 1, | S0212: 1, H0661: 1 | H0663: 1, 1 | H0589: 1, S0444: 1, | H0675: 1,] | H0730: 1, | H0369: 1, | H0492: 1, | H0013: 1, | H0635: 1, | H0251: 1, | H0263: 1, | H0327: 1, | H0150: 1, | T0003: 1, | H0373: 1, | H0510: 1, | L0171: 1, H0188: 1, | \$0336: 1, | H0048: 1, | L0055: 1, | H0166: 1, | H0211: 1, | S0366: 1, H0316: | H0634: 1, | H0155: 1, | H0488: 1, | H0279: 1, S0448: 1 | S0464: 1, | H0131: 1, |
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| H0641: 1, H0647: 1, S0144: 1, S0142: 1, L0640: 1, L0637: 1, L0646: 1, L0764: 1, L0766: 1, L0794: 1, L076: 1, L0794: 1, L075: 1, L0774: 1, L0775: 1, L0651: 1, L052: 1, L0651: 1, L055: 1, L065: 1, L055: 1, L065: 1, L055: 1, L065: 1, L055: 1, L069: 1, L055: 1, L069: 1, L055: 1, L069: 1, L053: 1, H0691: 1, H0684: 1, H0691: 1, H0684: 1, H0691: 1, L0744: 1, L0439: 1, L0744: 1, L0439: 1, L0744: 1, L0439: 1, L0592: 1, L0485: 1, L0608: 1, L0593: 1, | H0008: 1 and H0352: 1. | AR096: 6, AR060: 6, AR089: 5, AR052: 5, AR053: 3, AR033: 3, | , AR055: 1, AR061: 1, AR104: 1, AR039: 0 |
| | | | Asp-393 to Ala-403. AR104: |
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| *************************************** | H0539: 6, H0046: 3, H0039: 2, H0553: 2, | H0090: 2, L0750: 2, | 0605: 2, 50282: 1, | H0431: 1, H0036: 1, | H0421: 1, H0196: 1, | F0003: 1, S6028: 1, | H0252: 1, H0031: 1, | H0111: 1, H0591: 1, | H0412: 1, T0068: 1, | S0044: 1, L0752: 1, | H0445: 1 and L0581: 1. | H0635: 1 and H0561: | - 1 | AR089: 3, AR055: 3, AR060: 2. | | 2, AD104: | 2, AKIU4. | AR033: 2 | S0132: 2, S0358: 1, | H0615: 1, T0023: 1, | H0435: 1, S3014: 1, | L0740: 1, L0591: 1 and | L0362: 1. | | | | | . ! | |
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| | L0751: 25, L0665: 23, H0656: 12, L0743: 10, H0617: 9, H0620: 8, L0657: 8, H0318: 7, H0658: 7, H0650: 5, H0483: 5, H0657: 4, H0012: 4, H0024: 4, H0689: 4, H0341: 3, H0689: 4, H0341: 3, H0659: 3, H0618: 3, H0659: 3, H0618: 3, L0603: 3, S0358: 2, L0763: 2, L0615: 2, L0763: 2, L0637: 2, L0763: 2, L0659: 2, L0779: 2, L0663: 2, H0555: 2, L0748: 2, L0779: 2, S0282: 1, H0255: 1, H0306: 1, S0045: 1, L0717: 1, |
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| lo :aaaaaaaaaaaaaaaaaaa | AR052: 4, AR039: 3, AR055: 3, AR060: 3, AR061: 3, AR089: 2, AR033: 2, AR053: 2, AR096: 1, AR104: 1 H0624: 4, H0170: 3, H0328: 3, H0329: 2, H0013: 2, L0747: 2, L0777: 2, H0046: 1 and L0759: 1. |
| | Thr-2 to Asn-10, Ser-72 to Lys-78, Gly-95 to Thr-101, Phe-134 to Ile-147, Lys-163 to Lys-172, Gln-199 to Glu-206, Ala-212 to Trp-224, Lys-230 to His-236, Arg-238 to Glu-244, Arg-238 to Glu-244, Arg-249 to Gly-254, Met-260 to Tyr-266, |
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| 0 | | | | | | Arg-272 to Arg-279. | | | |
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| Asn-158 to Gly-165, 8, AR062: 8, AR052: Thr-191 to Asn-199, 7, AR055: 6, AR053: 2 | /HKD22 | 1056654 | 838 | 1287 - 601 | 3013 | Thr-32 to His-38, Thr-46 to Asn-55. | AR096: 14, AR089: 14. AR033: 10. AR061: | | |
| Thr-191 to Asn-199, 7, AR055: 6, AR053: 2 | | | | | | Asn-158 to Gly-165, | 8, AR060: 8, AR052: | | |
| \$, AR104: 3, AR039: 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | ••• | | | | | Thr-191 to Asn-199. | 7, AR055: 6, AR053: | | |
| L0766: 3, L0659: 3, L0744: 3, L0794: 2, L0744: 3, L0794: 2, L0805: 2, L0665: 2, H0648: 2, H0305: 1, H0648: 1, H0599: 1, H0648: 1, H0599: 1, L0763: 1, L0637: 1, L0764: 1, L0780: 1, L0776: 1, L0780: 1, L0776: 1, L0780: 1, L0776: 1, L0780: 1, L0777: 1, L0780: 1, L0778: 1, L0780: 1, L0778: 1, L0780: 1, L0778: 1, L0779: 1, L0780: 2, H18-157 to Phe-164, S0298: 1, Lys-219 to Asn-224, H0529: 1, | | | | | | | 5, AR104: 3, AR039: | | |
| L0744: 3, L0794: 2, L0805: 2, L0665: 2, H0648: 2, H0305: 1, H0648: 2, H0305: 1, H0648: 1, H0599: 1, H0648: 1, H0599: 1, H0648: 1, H0599: 1, H0648: 1, L0637: 1, L0763: 1, L0637: 1, L0763: 1, L0637: 1, L0763: 1, L0637: 1, L0763: 1, L0657: 1, L07640: 1, L0769: 1, L0777: 1, L0752: 1, L0777: 1, L0752: 1, L0777: 1, L0752: 1, L0777: 1, L076: 5, H18-157 to His-15, H0660: 3, L0776: 3, Asn-146 to Thr-152, H0657: 2, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Lys-219 to Asn-2224, H0544: 1, H0629: 1, | | | | | | | L0766: 3, L0659: 3, | | |
| L0865: 2, H0648: 2, H0659: 1, H0648: 2, H0305: 1, H0648: 2, H0305: 1, H0599: 1, H0586: 1, H0599: 1, H0586: 1, H0599: 1, H0428: 1, H0551: 1, L0763: 1, L0637: 1, L0662: 1, L0803: 1, L0662: 1, L0804: 1, L0806: 1, L0804: 1, L0763: 1, L0760: 1, L0770: 1, L0760: 1, L0770: | | | | | | | L0744: 3, L0794: 2, | | |
| H0648: 2, H0305: 1, H0586: 1, H0599: 1, H0586: 1, H0599: 1, H0428: 1, H0551: 1, S0038: 1, S0422: 1, L0763: 1, L0637: 1, L0763: 1, L0637: 1, L0764: 1, L0787: 1, L076: 1, L0787: 1, L0776: 1, L0750: 1, L0777: 1, L0750: 1, L0777: 1, L0759: 1, L0777: 1, L076: 2, H18-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | | L0805: 2, L0665: 2, | | |
| H0586: 1, H0599: 1, H0428: 1, H0551: 1, S0038: 1, S0422: 1, L0763: 1, L0637: 1, L0662: 1, L0803: 1, L0764: 1, L0657: 1, L0804: 1, L0806: 1, L0776: 1, L0655: 1, L0776: 1, L0777: 1, L0777: 1, L0752: 1, L0777: 1, L0777: 2, L0744: 4, Bhe-20 to Lys-41, L0747: 5, L0744: 4, Bhe-20 to Lys-41, L0747: 5, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0529: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | | H0648: 2, H0305: 1, | | |
| H0428: 1, H0551: 1, S0038: 1, S0422: 1, L0763: 1, L0637: 1, L0662: 1, L0803: 1, L0804: 1, L0806: 1, L0706: 1, L0706: 1, L0707: 1, L0706: 1, L0706: 1, L0706: 2, R18-15 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | | H0586: 1, H0599: 1, | | |
| 80038: 1, 80422: 1, L0763: 1, L0637: 1, L0662: 1, L0803: 1, L0804: 1, L0806: 1, L0776: 1, L0655: 1, L0776: 1, L0787: 1, L0776: 1, L0787: 1, L0776: 1, L0787: 1, L0776: 1, L0772: 1, L0777: 1, L0772: 1, Rpp11.3- Rpe-20 to Lys-41, L0777: 5, L0766: 5, Rpp11.3- Rpe-20 to Lys-41, Rpe-20 to Lys-11, Rpe-20 to Lys-11, Rpe-20 to Lys-11, Rpe-20 to Lys-24, Rpe-20 to Lys-25, | | | | | | | H0428: 1, H0551: 1, | | |
| 1056666 839 22 - 1125 3014 Glu-5 to His-15, L077: 1, L076: 3, L076: 1, L076: 1, L078: 1, L076: 1, L078: 1, L077: 1, L075: 1, L077: 1, L075: 1, L077: 1, L077 | | | | - | | • | S0038: 1, S0422: 1, | | |
| 1056666 839 22 - 1125 3014 Glu-5 to His-15, L077: 6, L076: 5, L077: 1, L0787: 1, L076: 1, L0787: 1, L076: 1, L0787: 1, L077: 1, L | | | | , | | | L0763: 1, L0637: 1, | | |
| 1056666 839 22 - 1125 3014 Glu-5 to His-15, L0747: 1, L0752: 1, L0756: 1, L0777: 1, L0752: 1, L0777: 1, L0752: 1, L0777: 1, L0777: 6, L0776: 5, Rpp11.3-Rph-20 to Lys-41, L0747: 5, L0744: 4, p11.2 Gln-43 to Tyr-49, H0660: 3, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | • | | | L0662: 1, L0803: 1, | | |
| L0776: 1, L0655: 1, L0661: 1, L0787: 1, S0374: 1, H0520: 1, L0770: 1, L0750: 1, L0777: 1, L0752: 1, L0777: 1, L0752: 1, L0777: 6, L0766: 5, Phe-20 to Lys-41, L0747: 5, L0744: 4, Gln-43 to Tyr-49, H0660: 3, L0750: 3, Asn-146 to Thr-152, H0657: 2, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | • | | | | | | L0804: 1, L0806: 1, | | |
| 1056666 839 22 - 1125 3014 Glu-5 to His-15, L0777: 6, L0766: 5, Rpp11.3-Rph-20 to Lys-41, L0777: 6, L0766: 5, Rpp11.3-Rph-20 to Lys-41, L0777: 6, L0769: 3, Asn-146 to Thr-152, H0660: 3, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | | L0776: 1, L0655: 1, | | |
| 80374: 1, H0520: 1, L0740: 1, L0750: 1, L0777: 1, L0752: 1, L0777: 1, L0777: 1, L0752: 1. Rhe-20 to Lys-41, L0777: 6, L0766: 5, Rhe-20 to Lys-41, L0747: 5, L0744: 4, Rhe-20 to Lys-41, L0747: 5, L0769: 3, Asn-146 to Thr-152, H0657: 2, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | | L0661: 1, L0787: 1, | | |
| L0740: 1, L0750: 1, L0777: 1, L0752: 1, L0779: 1 and L0592: 1. L0779: 1 and L0592: 1. L0777: 6, L0766: 5, 18p11.3- Phe-20 to Lys-41, L0747: 5, L0744: 4, p11.2 Gln-43 to Tyr-49, H0660: 3, L0750: 3, Asn-146 to Thr-152, H0657: 2, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | | S0374: 1, H0520: 1, | | |
| 1056666 839 22 - 1125 3014 Glu-5 to His-15, L0777: 1, L0752: 1, L0756: 1 and L0592: 1. Phe-20 to Lys-41, L0747: 6, L0766: 5, Rpp11.3 - Gln-43 to Tyr-49, H0660: 3, L0750: 3, Asn-146 to Thr-152, H0657: 2, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | | L0740: 1, L0750: 1, | | |
| 1056666 839 22 - 1125 3014 Glu-5 to His-15, L0777: 6, L0766: 5, 18p11.3-Phe-20 to Lys-41, L0747: 5, L0744: 4, p11.2 Gln-43 to Tyr-49, H0660: 3, L0750: 3, Asn-146 to Thr-152, H0657: 2, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | | L0777: 1, L0752: 1, | | |
| 1056666 839 22 - 1125 3014 Glu-5 to His-15, L0777: 6, L0766: 5, 18p11.3- Phe-20 to Lys-41, L0747: 5, L0744: 4, p11.2 Gln-43 to Tyr-49, H0660: 3, L0750: 3, Asn-146 to Thr-152, H0657: 2, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | | L0759: 1 and L0592: 1. | | |
| 23, p11:2 | HOCPJ87 | 1056666 | 839 | 22 - 1125 | 3014 | Glu-5 to His-15, | L0777: 6, L0766: 5, | 18p11.3- | 142946, |
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| Asn-146 to Thr-152, H0657: 2, L0769: 2, His-157 to Phe-164, S0298: 1, S0360: 1, Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | Gln-43 to Tyr-49, | H0660: 3, L0750: 3, | | |
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| Arg-181 to Gly-191, H0730: 1, H0592: 1, Lys-219 to Asn-224, H0544: 1, H0629: 1, | | | | | | His-157 to Phe-164, | S0298: 1, S0360: 1, | | |
| Lys-219 to Asn-224, H0544: 1, H0629: 1, | | • | | | | Arg-181 to Gly-191, | H0730: 1, H0592: 1, | | |
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| Lys-261 to Leu-278, S0334: 1, S0003: 1 Thr-291 to Asn-297, H0591: 1, H0641: 1 Glu-302 to Thr-312, L0598: 1, H0529: 1 Ser-316 to Thr-342, L0762: 1, L0502: 1 Cln-344 to Asp-367, L0763: 1, L0372: 1 L0646: 1, L0644: 1 L0768: 1, L0775: 1 L0806: 1, L0527: 1 H0144: 1, L0438: 1 H0648: 1, S0146: 1 S0406: 1, L0749: 1 L0779: 1, L0749: 1 L0779: 1, L0758: 1 L0779: 1, L0758: 1 L0779: 1, L0758: 1 L0759: 1, S0434: 1 H0506: 1. | Lys-6 to Ser-15, Ser-23 to Ala-28, Thr-81 to Gln-89, Gln-191 to Gly-198. |
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| | | | Glu-393 to Ser-406, L0369: 2, | | 153455, |
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| H0060: 1, H0674: 1, H0090: 1, H0591: 1, L0564: 1, S0440: 1, L0648: 1, L0521: 1, L0794: 1, L0806: 1, L0783: 1, L0657: 1, L0789: 1, L0664: 1, H0144: 1, H0519: 1, H0689: 1, H0683: 1, H0704: 1, L0748: 1, L0740: 1, L0731: 1, L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | | <u>_</u> | H0050: 1, | , S0388: 1, | |
| H0090: 1, H0591: 1, L0564: 1, S0440: 1, L0648: 1, L0521: 1, L0794: 1, L0806: 1, L0794: 1, L0809: 1, L0783: 1, L0664: 1, L0789: 1, L0664: 1, H0144: 1, H0519: 1, H0689: 1, H0683: 1, H0789: 1, L0749: 1, L0740: 1, L0745: 1, L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | | • | H0060: 1, | , H0674: 1, | |
| L0564: 1, S0440: 1, L0648: 1, L0521: 1, L0794: 1, L0806: 1, L0794: 1, L0805: 1, L0783: 1, L0657: 1, L0789: 1, L0664: 1, H0144: 1, H0519: 1, H0689: 1, H0683: 1, H0704: 1, H0555: 1, L0749: 1, L0745: 1, L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | | | H0090: 1, | , H0591: 1, | |
| L0648: 1, L0521: 1, L0794: 1, L0806: 1, L0783: 1, L0809: 1, L0789: 1, L0664: 1, H0144: 1, H0519: 1, H0689: 1, H0689: 1, H0704: 1, H0555: 1, L0749: 1, L0731: 1, L0749: 1, L0731: 1, | | | L0564: 1, | S0440: 1, | |
| L0794: 1, L0806: 1, L0655: 1, L0657: 1, L0783: 1, L0809: 1, L0789: 1, L0664: 1, H0144: 1, H0519: 1, H0689: 1, H0683: 1, H0704: 1, H0555: 1, L0740: 1, L0745: 1, L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | | | L0648: 1, | . , | |
| L0655: 1, L0657: 1, L0783: 1, L0809: 1, L0789: 1, L0664: 1, H0144: 1, H0519: 1, H0689: 1, H0683: 1, H0704: 1, H0555: 1, L0740: 1, L0745: 1, L0749: 1, L0731: 1, | | <u></u> | L0794: 1, | L0806: 1, | |
| L0783: 1, L0809: 1, L0789: 1, L0664: 1, H0144: 1, H0519: 1, H0689: 1, H0683: 1, H0704: 1, H0555: 1, L0740: 1, L0745: 1, L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | - | | L0655: 1, | L0657: 1, | |
| L0789: 1, L0664: 1, H0144: 1, H0519: 1, H0689: 1, H0683: 1, H0704: 1, H0555: 1, L0740: 1, L0731: 1, L0759: 1 and L0601: 1. | | | L0783: 1, | L0809: 1, | |
| H0144: 1, H0519: 1, H0689: 1, H0683: 1, H0704: 1, H0555: 1, L0740: 1, L0745: 1, L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | | | L0789: 1, | L0664: 1, | |
| H0689: 1, H0683: 1, H0704: 1, H0555: 1, L0740: 1, L0745: 1, L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | | | H0144: 1, | H0519: 1, | |
| H0704: 1, H0555: 1, L0740: 1, L0745: 1, L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | | | H0689: 1, | H0683: 1, | |
| L0740: 1, L0745: 1, L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | | | H0704: 1, | H0555: 1, | - |
| L0749: 1, L0731: 1, L0759: 1 and L0601: 1. | | | L0740: 1, | L0745: 1, | ** |
| L0759: 1 and L0601: 1. | | | L0749: 1, | L0731: 1, | |
| | | | L0759: 1 a | and L0601: 1. | |

| 106150, 106150, 145260, 173870, 173870, 600759, 600996, 601744, | 102200, 106100, 131100, 131100, 131100, 133780, 147050, 164009, 168461, 168461, 168461, 198461, 19323, 209901, 232600, 259700, |
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| 1942-944 | 11913 |
| S0418: 1, H0580: 1, S0278: 1, H0013: 1, H0046: 1 and H0547: 1. | 5, AR089: 5, 2, AR055: 2, 2, AR061: 1 |
| S0418: S0278: 1 H0046: 1 | AR104: AR060: 5. |
| 3020 Pro-1 to Pro-9. | Arg-16 to Arg-22, Ser-52 to Lys-62, Ala-73 to Arg-78, Arg-153 to Leu-169, Arg-172 to Leu-195, Glu-203 to Arg-216. |
| 3020 | 3021 |
| 3 - 1316 | 3 - 650 |
| 845 | 846 |
| 1056774 | 1056786 |
| HHAWB19 | HHATP38 |

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| 600045, 600319, 600528, 601884 | | 143890, 151440, 600173, 600276, 600310, 601604, 601843 |
| | | 19p13.1 |
| · | S0053: 3, H0551: 2, S0418: 1, S0046: 1, H0486: 1, H0355: 1, L0771: 1, H0672: 1, S0206: 1, L0605: 1 and S0276: 1. | L0731: 9, H0617: 7, L0769: 7, L0809: 6, L0806: 5, S0328: 5, L0745: 4, L0764: 3, L0754: 3, H0624: 2, S0360: 2, H0550: 2, H0033: 2, H0086: 2, H0011: 2, H0246: 2, H0615: 2, H0424: 2, L0794: 2, L0770: 2, L0774: 2, L0699: 2, L0774: 2, L0769: 2, L0777: 2, L0769: 2, L0777: 2, L0697: 2, L0757: 2, H0170: 1, H0556: 1, H0294: 1, |
| | Tyr-47 to Arg-58. | Val-212 to Phe-223. |
| | 3022 | 3023 |
| | 645 - 983 | 1 - 831 |
| | 847 | 848 8 |
| | 1056801 | 1056804 |
| | HVVBE07 | HKAHB85 |

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| H0341: 1, H0484: 1, | H0483: 1, S0358: 1, | S0376: 1, S0007: 1, | H0370: 1, H0013: 1, | H0706: 1, H0618: 1, | H0253: 1, H0052: 1, | 10085: 1, H0545: 1, | H0012: 1, H0620: 1, | H0024: 1, S0051: 1, | H0687: 1; H0213: 1, | H0031: 1, H0553: 1, | H0181: 1, L0455: 1, | H0334: 1, H0509: 1, | .0772: 1, L0800: 1, | .0768: 1, L0766: 1, | .0805: 1, L0653: 1, | .0776: 1, L0807: 1, | .0658: 1, L0512: 1, | 20659: 1, L0526: 1, | .0783: 1, L0368: 1, | .0789: 1, L0790: 1, | L0665: 1, H0690: 1, | 10435: 1, H0660: 1, | H0539: 1, S0152: 1, | 10521: 1, S0406: 1, | 20751: 1, L0750: 1, | L0779: 1, L0780: 1, | L0752: 1, L0758: 1, | L0587: 1, L0592: 1, | L0599: 1 and L0603: 1. |
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| 100730, | 118800, | 123660, | 135600, | 157655, | 186860, | 201460, | 205100, | 213700, | 262000, | 600258, | 601277, | 601318 | | | | | | | | | | | | | | | | | |
| 2q33-q34 | • | | | | | | | | | | | | | | | | | | | | • | | | | | • | | | |
| S0212: 20, L0751: 14, | .0663: 11, L0731: 11, | H0083: 10, L0657: 10, | .0666: 10, H0547: 10, | 10550: 7, H0620: 6, | .0769: 6, H0689: 6, | H0123: 5, H0428: 5, | J0662: 5, S0356: 4, | H0059: 4, L'0664: 4, | 10520: 4, H0670: 4, | .0581: 4, S0418: 3, | L0717: 3, H0618: 3, | 10494: 3, S0438: 3, | J0770: 3, L0659: 3, | 10683: 3, H0660: 3, | J0747: 3, L0758: 3, | S0434: 3, H0543: 3, | H0624: 2, H0295: 2, | H0341: 2, H0662: 2, | S0358: 2, S0360: 2, | H0675: 2, S0408: 2, | H0251: 2, H0051: 2, | H0594: 2, H0687: 2, | H0615: 2, H0031: 2, | H0413: 2, H0100: 2, | .0637: 2, L0648: 2, | J0803: 2, L0774: 2, | J0783: 2, L0665: 2, | S0374: 2, S0126: 2, | H0658: 2, H0672: 2, |
| | | | | 1 | | 1 | | | , 14 | | | ш. | | <u></u> | | <u> </u> | | <u>, 14</u> | 0) | | <u>н</u> | ш. | | | | _ | <u>, -</u> | | <u>, 114, 1</u> |
| 3024 | | | | | | | | | | | | | | _ | | - | | | | | | | | | | | | • | |
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| S0378: 2, S0380: 2, | S0406: 2, L0439: 2, | L0759: 2, L0605: 2, | H0352: 2, H0170: 1, | H0686: 1, H0685: 1, | H0294: 1, S0180: 1, | S0298: 1, H0661: 1, | H0664: 1, S0420: 1, | S0442: 1, S0354: 1, | S0376: 1, H0637: 1, | H0329: 1, S0007: 1, | H0208: 1, H0645: 1, | H0549: 1, H0391: 1, | H0392: 1, H0331: 1, | H0632: 1, T0109: 1, | H0575: 1, H0545: 1, | H0057: 1, H0373: 1, | H0188: 1, H0288: 1, | H0286: 1, H0644: 1, | H0617: 1, H0606: 1, | H0087: 1, L0564: 1, | S0440: 1, L0772: 1, | L0374: 1, L0644: 1, | L0794: 1, L0652: 1, | L0653: 1, L0809: 1, | L0543: 1, H0693: 1, | H0593: 1, H0690: 1, | H0682: 1, H0684: 1, | H0666: 1, S0330: 1, |
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| H0696: 1, H0555: 1, S0027: 1, L0748: 1. | L0750: 1, L0779: 1, | L0755: 1, H0445: 1, | S0436: 1, L0597: 1, | L0599: 1, H0542: 1 and | S0384: 1. | | | | | | | | | | | | | | | | | S0212: 20, L0751: 14, | L0663: 11, L0731: 11, | H0083: 10, L0657: 10, | L0666: 10, H0547: 10, | H0550: 7, H0620: 6, | L0769: 6, H0689: 6, | H0123: 5, H0428: 5, |
| | | | | | | Pro-8 to Glu-16, | Lys-29 to Gly-34, | Gly-85 to Glu-92. | Lys-165 to Glu-172, | Glu-180 to Ser-186, | Ser-210 to Arg-215, | Glu-278 to Gln-288, | Lys-377 to Glu-383, | Lys-405 to Gly-410, | Lys-468 to Glu-474, | Asn-483 to Arg-488, | Gln-496 to Glu-502, | Val-555 to Gly-561, | Glu-611 to Pro-623, | Lys-631 to Trp-638, | Phe-641 to Gly-649. | Gly-20 to Tyr-30, | Asn-40 to Glu-46, | Ser-66 to Gly-75, | Lys-85 to Gly-97, | Glu-104 to Arg-115, H0550: 7, H0620: 6, | Pro-135 to Pro-140, L0769: 6, H0689: 6, | Pro-150 to Asn-159, H0123: 5, H0428: 5 |
| | | | | | | 3025 | | | | | | | | | | | | | | | | 3026 | | | | | | |
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| 62: 5, S0356: 4, 59: 4, L0664: 4, | H0520: 4, H0670: 4, | L0581: 4, S0418: 3, | 17: 3, H0618: 3, | H0494: 3, S0438: 3, | .0770: 3, L0659: 3, | H0683: 3, H0660: 3, | .0747: 3, L0758: 3, | 34: 3, H0543: 3, | H0624: 2, H0295: 2, | H0341: 2, H0662: 2, | 50358: 2, S0360: 2, | H0675: 2, S0408: 2, | H0251: 2, H0051: 2, | H0594: 2, H0687: 2, | H0615: 2, H0031: 2, | H0413: 2, H0100: 2, | .0637: 2, L0648: 2, | .0803: 2, L0774: 2, | .0783: 2, L0665: 2, | S0374: 2, S0126: 2, | H0658: 2, H0672: 2, | S0378: 2, S0406: 2, | .0439: 2, L0605: 2, | H0352: 2, H0170: 1, | H0686: 1, H0685: 1, | H0294: 1, S0180: 1, | S0298: 1, H0661: 1, | H0664: 1, S0420: 1, |
| Leu-167 to Glu-173, L0662: 5, S0356: 4, Ile-191 to Glu-196, H0059: 4, L0664: 4 | Val-210 to Gln-216. H05 | 507 | L07 | H04 | 107 |)OH | L07 | S04 |)OH | HO2 | 803 |)OH | OH HOS | HO5 |)OH | ⁄0H | 207 | 207 | 101 | 803 |)OH | | . | OH |)OH | OH | 20 <u>s</u> | HO |
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| S0442: 1, S0354: 1, | S0376: 1, H0637: 1, | H0329: 1, S0007: 1, | H0208: 1, H0645: 1, | H0549: 1, H0391: 1, | H0392: 1, H0331: 1, | H0632: 1, T0109: 1, | H0575: 1, H0545: 1, | H0009: 1, H0024: 1, | H0057: 1, H0373: 1, | H0188: 1, H0288: 1, | H0286: 1, H0644: 1, | Ę, | H0087: 1, L0564: 1, | S0440: 1, L0772: 1, | L0374: 1, L0794: 1, | L0652: 1, L0653: 1, | L0809: 1, L0543: 1, | H0693: 1, H0593: 1, | H0690: 1, H0682: 1, | H0684: 1, H0666: 1, | S0330: 1, S0380: 1, | H0696: 1, H0555: 1, | S0027: 1, L0748: 1, | L0750: 1, L0779: 1, | L0755: 1, L0759: 1, | ٠ | L0597: 1, L0599: 1, | H0542: 1 and S0384: 1. | H0617: 18, H0545: 12, [11p15.5] |
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| 126452, | 126452, | 141900, | 141900, | 141900, | 141900, | 141900, | 141900, | 142000, | 142000, | 142200, | 142250, | 142270, | 176730, | 176730, | 176730, | 190020, | 191290, | 192500, | 192500, | 194071, | 194071, | 204500, | 600856, | 601680, | 602631, | 602631 | | | |
| .0439: 11. L0743: 10. | .0751: 10, H0295: 8, | .0757: 8, S0212: 7, | S0360: 7, L0662: 7, | H0551: 6, H0494: 6, | S0027: 6, L0779: 6, | H0550: 5, H0575: 5, | 10253: 5, H0039: 5, | .0659: 5, H0521: 5, | .0747: 5, S0408: 4, | 30046: 4, H0427: 4, | H0599: 4, H0546: 4, | H0014: 4, L0764: 4, | .0774: 4, L0438: 4, | 30126: 4, H0672: 4, | .0731: 4, S0434: 4, | H0255: 3, H0662: 3, | 50354: 3, S0358: 3, | S0045: 3, H0370: 3, | S0280: 3, H0309: 3, | H0046: 3, H0266: 3, | H0412: 3, H0413: 3, | S0440: 3, H0509: 3, | 0769: 3, L0775: 3, | ,0666: 3, H0520: 3, | S0330: 3, H0539: 3, | .0744: 3, L0777: 3, | 50011: 3, 50192: 3, | H0484: 2, H0661: 2, | 80420: 2, 80356: 2, |
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| S0376: 2, S0410: 2, | H0580: 2, S0007: 2, | H0208: 2, S0132: 2, | S0278: 2, H0549: 2, | H0592: 2, H0486: 2, | H0706: 2, H0590: 2, | S0474: 2, H0251: 2, | H0204: 2, H0544: 2, | L0163: 2, H0188: 2, | H0687: 2, H0622: 2, | H0040: 2, H0560: 2, | S0142: 2, S0210: 2, | L0637: 2, L0768: 2, | L0651: 2, L0527: 2, | L0782: 2, L0783: 2, | L0528: 2, L0663: 2, | S0374: 2, H0547: 2, | H0651: 2, L0602: 2, | H0522: 2, H0555: 2, | L0740: 2, L0754: 2, | L0758: 2, S0196: 2, | H0542: 2, H0624: 1, | H0265: 1, S0040: 1, | S0342: 1, H0713: 1, | H0294: 1, H0583: 1, | S0180: 1, S0001: 1, | H0663: 1, H0664: 1, | S0418: 1, S0444: 1, | H0675: 1, H0619: 1, | H0392: 1, T0104: 1, |
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| H0587: 1. H0333: 1. | H0559: 1, L0623: 1, | 0040: 1, H0013: 1, | H0069: 1, H0108: 1, | .0036: 1, H0196: 1, | (0052: 1, H0085: 1, | (0205: 1, H0150: 1, | H0041: 1, H0009: 1, | (0123: 1, H0012: 1, | (0023: 1, H0024: 1, | 50388: 1, S0051: 1, | 10510: 1, H0594: 1, | H0284: 1, H0286: 1, | 0250: 1, H0688: 1, | H0428: 1, T0023: 1, | I0213: 1, H0030: 1, | H0553: 1, L0142: 1, | H0628: 1, H0181: 1, | H0606: 1, H0674: 1, | S0364: 1, H0135: 1, | H0372: 1, H0087: 1, | H0264: 1, H0269: 1, | H0623: 1, H0059: 1, | .0564: 1, H0625: 1, | H0633: 1, H0646: 1, | H0529: 1, L0770: 1, | .3904: 1, L0772: 1, | L0372: 1, L0800: 1, | L0773: 1, L0533: 1, | .0375: 1, L0376: 1, |
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| | 188826, 250100, 250800, 250800 |
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| | 22913.2- q13.31 |
| L0806: 1, L0654: 1, L0629: 1, L0657: 1, L0656: 1, L0809: 1, L0647: 1, L0790: 1, L0665: 1, H0593: 1, H0689: 1, H0690: 1, H0435: 1, H0670: 1, S0328: 1, S0378: 1, S0328: 1, S0378: 1, H0631: 1, S3012: 1, S0028: 1, S0206: 1, L0750: 1, L0755: 1, L0759: 1, L0596: 1, L0597: 1, S0026: 1, H0665: 1, H0543: 1 and S0424: 1. | L0743: 4, L0749: 4, L0731: 4, H0265: 2, H0213: 2, H0169: 2, H0038: 2, H0543: 2, H0170: 1, H0556: 1, H0341: 1, H0661: 1, S0420: 1, S0360: 1, H0639: 1, H0438: 1, H0036: 1, H0253: 1, S0010: 1, H0530: 1, H0009: 1, L0471: 1, H0644: 1, L0055: 1, |
| | Gin-34 to Ala-45, Glu-47 to Leu-52, Lys-113 to Gin-121. |
| | 3028 |
| | 79 - 480 |
| | 853 |
| | 1056875 |
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| | | | 144200, 148066, 148066, 148067, 148067, |
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| | | · | 17q11.2- 17q12 |
| S0144: 1, S0002: 1, L0775: 1, H0691: 1, H0659: 1, H0648: 1, S0350: 1, S3012: 1, L0748: 1, L0740: 1, L0754: 1, L0747: 1, L0750: 1, L0753: 1, L0755: 1, L0758: 1 and S0276: 1. | H0615: 3 | AR055: 28, AR053: 28, AR053: 22, AR033: 26, AR052: 22, AR089: 20, AR061: 13, AR060: 13, AR039: 11, AR096: 10, AR104: 5 L0751: 4, L0439: 3, L0777: 3, L0779: 2, L0777: 3, L0779: 2, L0758: 2, H0650: 1, H0328: 1, H0615: 1, L0435: 1, L0659: 1, L0649: 1, L0650: 1, L0649: 1, L0650: 1, L0774: 1, L0376: 1, L0778: 1, L0376: 1, L0778: 1, L0376: 1, L0778: 1, L0376: 1, L0778: 1, L0376: 1, L0789: 1 and H0343: 1. | |
| | Ser-13 to His-19, Gly-41 to Arg-49. | Arg-17 to Lys-33. | Arg-27 to Trp-35. |
| | 3029 | 3030 | 3031 |
| | 884 - 738 | 2 - 469 | 100 - 333 |
| | 854 | 855 | 856 |
| | 1056927 | 1056990 | 1057009 |
| | HODGM46 | HODFR44 | HCHND12 |

| 148069. | 154275, | 162200, | 162200, | 180240, | 182138, | 239100, | 600119, | 600119, | 600881, | 601363, | 601687, | 601954, | 602403 | | | | | | - | | | | | | | | | | |
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| L0749: 3. H0661: 2. | S0418: 2, S0408: 2, | H0246: 2, H0615: 2, | H0617: 2, L0637: 2, | L0766: 2, L0659: 2, | L0783: 2, L0665: 2, | S0374: 2, H0682: 2, | H0666: 2, L0754: 2, | L0759: 2, L0596: 2, | H0506: 2, H0624: 1, | S0114: 1, S0420: 1, | S0354: 1, S0358: 1, | S0376: 1, H0675: 1, | S0222: 1, H0156: 1, | | L0040: 1, H0597: 1, | H0457: 1, H0188: 1, | H0688: 1, H0622: 1, | H0424: 1, H0030: 1, | H0553: 1, H0644: 1, | H0673: 1, H0124: 1, | S0440: 1, S0472: 1, | H0647: 1, L0640: 1, | L0772: 1, L0764: 1, | L0765: 1, L0650: 1, | L0375: 1, L0776: 1, | L0792: 1, L0666: 1, | H0690: 1, H0435: 1, | H0670: 1, H0648: 1, | S0404: 1, L0755: 1, |
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| | 164731, 172400, 172400, 180901, 180901, 221770, 248600, 600918, | | |
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| | 19q13.1 | | |
| L0731: 1, L0605: 1 and L0600: 1. | S0051: 4, H0441: 3, S0036: 3, L0769: 3, L0438: 3, L0769: 3, H0687: 2, L0665: 2, S0031: 2, S6024: 1, S0029: 1, H0455: 1, H0052: 1, L0638: 1, L0639: 1, S0053: 1 and L0742: 1. | H0622: 42, S0380: 10, S0368: 3, H0040: 1, H0519: 1 and S0378: 1. | AR039: 13, AR033: 12, AR104: 11, AR053: 10, AR055: 9, AR052: 9, AR089: 9, AR096: |
| ` | | 85 35 19,3,3 07 21 22 33 39 39 39 39 39 39 39 39 39 39 39 39 | Arg-8 to Pro-18, Asp-76 to Arg-83, Glu-85 to Thr-94, Arg-139 to Ile-145, |
| | 3032 | 3033 | 3034 |
| | 2 - 553 | 2 - 2206 | 2 - 988 |
| | 857 | 858 | 859 |
| | 1057157 | 1057170 | 1057212 |
| | НВНАС29 | HTPFW87 | HISAF60 |

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| Gln-180 to Asp-196, 8, AR060: 5, AR061: | 1hr-201 to Ser-213, 3 Lys-230 to Gln-235, L0731: 12, L0747: 9, | Asn-293 to Gly-309, H0651: 5, L0759: 5, | Thr-315 to Phe-321. H0644: 4, H0013: 3, | L0748: 3, L0439: 3, | L0779: 3, H0575: 2, | H0052: 2, H0327: 2, | H0050: 2, H0083: 2, | L0769: 2, L0662: 2, | L0438: 2, H0539: 2, | L0743: 2, L0750: 2, | L0588: 2, H0716: 1, | L0002: 1, L0443: 1, | S0001: 1, S0360: 1, | H0645: 1, H0411: 1, | H0587: 1, H0333: 1, | H0486: 1, S0010: 1, | S0050: 1, H0051: 1, | H0428: 1, H0553: 1, | H0032: 1, L0455: 1, | S0036: 1, H0038: 1, | H0412: 1, H0413: 1, | H0100: 1, T0042: 1, | L0770: 1, L0637: 1, | L0766: 1, L0649: 1, | L0774: 1, L0776: 1, | L0655: 1, L0659: 1, | L0783: 1, L0529: 1, | L5623: 1, L0790: 1, |
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| | | 106165, 117700, 117700, 165500, 169600, 180380, |
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| | | 3q24-q28 |
| L0791: 1, H0520: 1, H0519: 1, H0593: 1, H0689: 1, H0670: 1, H0672: 1, H0696: 1, S3014: 1, L0741: 1, L0744: 1, L0757: 1, | L0743: 4, L0751: 4, H0252: 3, L0659: 3, H0586: 2, H0135: 2, H0038: 2, L0438: 2, H0670: 2, L0779: 2, H0624: 1, S0430: 1, S0222: 1, H0052: 1, L0471: 1, T0010: 1, H0428: 1, H0616: 1, H0646: 1, L0564: 1, H0646: 1, L0763: 1, H0660: 1, H0651: 1, H0660: 1, H0651: 1, H0555: 1, L0749: 1, L0750: 1, L0752: 1, | L0777: 3, L0803: 2, L0774: 2, L0602: 2, L0596: 2, L0588: 2, S0376: 1, H0431: 1, H0427: 1, H0266: 1, H0328: 1, H0615: 1, |
| | Ala-1 to Ser-7, Gln-108 to Ser-117. | Arg-49 to Leu-55, L0777: 3, L0803: Arg-61 to Cys-69, L0774: 2, L0602: 2 Arg-87 to Arg-102, L0596: 2, L0588: 2 Asn-119 to Lys-125, S0376: 1, H0431: 1 Cys-132 to Met-151, H0427: 1, H0266: Ser-157 to Glu-164, H0328: 1, H0615: |
| | 3035 | 3036 |
| | 1521 - 1937 | 1 - 1155 |
| | 098 | 861 |
| | 1057219 | 1057260 |
| | HRABO80 | HADDF30 |

| 180380, 180380, 276902, 600700, 601199, 601199, 601682 | |
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| Asn-187 to Glu-210, L0523: 1, L0659: 1, Glu-235 to Thr-243, L0809: 1, L0666: 1, Lys-245 to Val-251, H0660: 1, S0378: 1 and His-256 to Ser-268, L0750: 1. Ser-277 to Ser-288, Leu-303 to Glu-317, Glu-328 to Gln-341, Ser-350 to Leu-355, Ser-357 to Asn-364. | AR096: 4, AR089: 2, AR033: 2, AR060: 1, AR053: 1, AR055: 1, AR061: 1, AR104: 1, AR039: 0, AR052: 0 H0052: 4, L0768: 3, L0766: 3, L0438: 3, L0748: 3, L0750: 3, H0657: 2, H0341: 2, H0484: 2, T0042: 2, L0748: 2, L0774: 2, L0756: 2, L0777: 2, L0756: 1, H0656: 1, S0420: 1, H0393: 1, L0777: 1, S0222: 1, H0497: 1, H0486: 1, H0013: 1, H0263: 1, H0620: 1, L0579: 1, H0620: 1, L0163: 1, |
| Asn-187 to Glu-210,L0523: 1, L0659: Glu-235 to Thr-243, L0809: 1, L0666: Lys-245 to Val-251, H0660: 1, S0378: His-256 to Ser-268, L0750: 1. Ser-277 to Ser-288, Leu-303 to Glu-317, Glu-328 to Gln-341, Ser-350 to Leu-355, Ser-357 to Asn-364. | Asn-37 to Arg-45. |
| | 3037 |
| · | 245 - 460 |
| | 862 |
| | 1057272 |
| · | HDAAS58 |

| | | 118504, 118504, 131242, 139320, 139320, 139320, 602025, 602235 |
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| | | 20q13.2- q13.3 |
| H0615: 1, H0688: 1, H0494: 1, H0538: 1, L0769: 1, L0772: 1, L0649: 1, L0794: 1, L0774: 1, L0375: 1, L0776: 1, L0789: 1, L0792: 1, L0666: 1, H0711: 1, H0690: 1, L0439: 1, L0754: 1, L0745: 1, L0747: 1, L0786: 1, L0780: 1, L0786: 1, L0780: 1, L0752: 1, H0542: 1 and H0352: 1, | H0556: 1, H0455: 1 and H0660: 1. | H0550: 3, L0751: 3, S0356: 2, H0024: 2, H0014: 2, H0059: 2, H0661: 1, H0645: 1, H0549: 1, H0052: 1, H0172: 1, H0123: 1, H0172: 1, H0266: 1, H0288: 1, H0553: 1, H0135: 1, H0494: 1, H0646: 1, L0649: 1, |
| | Thr-92 to Gln-106, Val-222 to Val-227, Glu-229 to Asp-245. | . ; |
| · | 3038 | 3039 |
| | 3 - 737 | 3 - 1391 |
| · | 863 | 864 |
| | 1057307 | 1057393 |
| | HSDZG15 | HPDVY52 |

| H0658: 1, H0672: 1, H0555: 1, L0439: 1, L0747: 1, S0276: 1 and H0506: 1. | H0556: 7, H0543: 7, H0265: 3, S0278: 3, S0002: 3, H0445: 3, H0657: 2, H0663: 2, H0580: 2, S0003: 2, H0590: 2, S0144: 2, S0152: 2, S0206: 2, H0542: 2, H0542: 1, H0575: 1, H0351: 1, H0675: 1, H0351: 1, H0675: 1, H0591: 1, H0640: 1, H0564: 1, H0640: 1, H0564: 1, H0640: 1, H0640: 1, H0641: 1, H0640: 1, H0641: 1, H0640: 1, H0641: 1, H0640: 1, H0641: 1, H0640: | L0751: 19, L0659: 9, H0550: 8, H0545: 6, S0360: 5, H0620: 5, H0309: 4, H0050: 4, H0135: 4, L0754: 4, L0747: 4, L0731: 4, H0170: 3, H0253: 3, |
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| | Arg-20 to Gly-28, H0556: 7, H0543: Glu-41 to Asn-55, H0265: 3, S0278: 3, Asp-62 to Thr-74, S0002: 3, H0445: 3, Glu-105 to Thr-118, H0657: 2, H0663: 2, Glu-205 to Glu-205, H0090: 2, S0206: 2, Pro-231 to Phe-238, H0542: 2, H0656: 1, Glu-282 to Glu-264, H0125: 1, H0351: 1, Lys-300 to Asn-305, H0075: 1, H0373: 1, His-351 to Thr-358, H0575: 1, H0373: 1, His-351 to Thr-358, H0375: 1, H0591: 1, Arg-399 to Cys-407, H0040: 1, H0264: 1, R0422: 1, R0423: 1, H0423: 1, H0423: 1, H0423: 1, H0423: 1, H0422: 1, H0423: 1 | Cys-24 to Gly-35, H0550: 8, H0545: 6, Gln-181 to Asp-188, S0360: 5, H0620: 5, Val-264 to Pro-270, H0309: 4, H0050: 4, Asn-289 to Gly-294, H0135: 4, L0751: 4, L0731: 4, L0731: 4, Gly-353 to Leu-360, H0170: 3, H0253: 3, |
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| 687: | 375: 3 | 672: 3 | 519:2 | 427: | 622: | 087: | 764: 7 | L0664: 2, | 139: 2 | 759: 2 | 192: 2 | 1, H0663: 1 | 356: | 300: | 222: | 592: | 196: | 251: | 544 | 188: | 053: | 553: | 674: | 9000 | 770: | 648: | 1, L0806: | 542: | 783: |
| 3, HO | 3, LO | 3, HO | 3, HO | 2, H0 | 2, H0 | 2, H0 | 2,10 | Š | , LQ | 2, 10, | 2, S0 | 1, HO | 1, 50 | 1, 50 | 1, 50 | 1, HC | 1, HC | 1, HC | 1, HC | 1, HC | 1,10 | 1, HC | 1, H | 1, H(| 1,1 | 1,10 | 1,10 | 1,12 | 1, 2 |
| H0024: 3, H0687: 3, | H0124: 3, L0375: 3, | 14. | S0196: 3, H0619: 2, | H0586: 2, H0427: | 10546: 2, H0622: | H0628: 2, H0087: 2, | H0100: 2, L0764: 2, | .0519: 2, | 30028: 2, | J0758: 2, L0759: 2, | H0343: 2, S0192: 2, | S0212: 1 | H0662: 1, S0356: 1 | H0208: 1, S0300: 1 | H0549: 1, S0222: 1 | H0392: 1, H0592: | H0618: 1, H0196: 1 | H0052: 1, H0251: 1 | 10232: 1, H0544: 1 | H0041: 1, H0188: | S0250: 1, L0053: 1 | H0031: 1, H0553: | H0644: 1, H0674: | H0163: 1, H0090: | H0477: 1, L0770: | .0644: 1, L.0648: | .0662: 1 | 0776: 1, L0542: 1, | .0546: 1, L0783: |
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| Asn-379 to Asp- | ∞. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0789: 1, L0666: 1, L0663: 1, L0438: 1, H0684: 1, H0651: 1, S0044: 1, L0744: 1, L0584: 1, L0485: 1, L0361: 1, S0194: 1 and H0008: 1. | AR039: 5, AR053: 5, AR089: 4, AR060: 3, AR061: 3, AR055: 2, AR096: 1, AR033: 1, AR104: 0 L0747: 4, L0777: 3, L0657: 2, L0759: 2, L0811: 1, H0369: 1, L0637: 1, L0772: 1, L0772: 1, L0783: 1, L0783: 1, L0809: 1, H0660: 1, L0731: 1 and L0758: 1. | AR055: 5, AR060: 5, AR061: 5, AR052: 4, AR033: 4, AR089: 3, AR053: 3, AR096: 2, AR039: 2, AR104: 1 H0550: 9, H0651: 6, S0358: 5, L0659: 5, H0549: 3, H0586: 3, L0662: 3, L0794: 3, |
| | Arg-12 to Gln-25, Gly-31 to Gly-38. | His-12 to Ala-26, Ser-70 to Glu-78, Pro-87 to Pro-94. |
| | 3042 | 3043 |
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| L0777: 3, H0575: 2, L0649: 2, L0748: 2, L0756: 2, L0758: 2, H0739: 1, H0716: 1, H0662: 1, H0587: 1, H0706: 1, H0050: 1, H0018: 1, H0600: 1, H0644: 1, H0628: 1, H0163: 1, H0100: 1, L0770: 1, L0809: 1, L0778: 1, L0663: 1, H0696: 1, S0406: 1, S0390: 1 and L0749: 1. | AR052: 10, AR096: 6, AR053: 4, AR033: 4, AR089: 4, AR039: 4, AR060: 4, AR104: 3, AR055: 3, AR061: 2 L0659: 11, L0665: 11, L0666: 9, L0752: 9, L0731: 9, H0623: 7, L0743: 7, L0750: 7, L0662: 6, L0758: 6, L0759: 6, S0045: 5, S0046: 5, H0437: 4, H0457: 4, L0747: 4, |
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| H0422: 4, L0005: 3, | S0376: 3, H0411: 3, | S0222: 3, H0266: 3, | H0553: 3, H0056: 3 | .0667: 3, L0764: 3, | .0794: 3, L0803: 3, | H0436: 3, L0588: 3, | .0599: 3, H0543: 3, | H0624: 2, H0657: 2, | S0116: 2, H0580: 2, | H0013: 2, H0439: 2, | J0471: 2, L0483: 2, | H0413: 2, S0344: 2, | 0598: 2, L0763: 2, | J0771: 2, L0775: 2, | .0809: 2, S0374: 2, | H0670: 2, H0648: 2, | S0328: 2, S0330: 2, | S0136: 2, H0696: 2, | S0404: 2, S0028: 2, | .0751: 2, L0745: 2, | .0755: 2, H0170: 1, | H0171: 1, H0583: 1, | H0662: 1, H0402: 1, | S0444: 1, | H0722: 1, | H0351: 1, | H0431: 1, | , H0333: 1, | H0486: 1, H0635: 1, |
| H0422: 4 | S0376: 3 | S0222: 3 | H0553: 3 | L0667: 3 | L0794: 3 | H0436: 3 | L0599: 3 | H0624: 2 | S0116: 2 | H0013: 2 | L0471: 2 | H0413: 2 | L0598: 2 | 1.0771: 2 | L0809: 2 | H0670: 2 | S0328: 2, | S0136: 2, | S0404: 2, | L0751: 2 | L0755: 2 | H0171: 1 | H0662: 1 | S0442: 1, | \$0360: 1, | S0300: 1, | S0278: 1, | H0592: 1, | H0486: 1 |
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| H0318: 1, S0474: 1, H0581: 1, H0421: 1, H0434: 1, H0251: 1, H0150: 1, H0024: 1, H06594: 1, H0179: 1, H0664: 1, H0628: 1, S0036: 1, H0038: 1, H0634: 1, T0067: 1, H0634: 1, L067: 1, L0648: 1, L0521: 1, L0650: 1, L0651: 1, L0632: 1, L0651: 1, L0648: 1, L0518: 1, L078: 1, L0651: 1, L078: 1, L0659: 1, S0190: 1, H0710: 1, S0190: 1, H0727: 1, L0754: 1, L0756: 1, L0754: 1, L0756: 1, | |
|---|---|
| дицинания | Leu-1 to Lys-7, Arg-27 to Glu-33, Ala-43 to Gly-66, Ser-78 to Ser-84, Gly-111 to Val-118, |
| | 3045 |
| | 214 - 1272 |
| | 870 |
| | 1057880 |
| | HVVBT41 |

| | L0768: 7, L0750: 6, L0783: 5, H0687: 4, H0428: 4, L0770: 4, H0672: 4, H0031: 3, L0767: 3, L0776: 3, L0749: 3, L0755: 3, L0749: 3, L0755: 3, L0731: 3, L0759: 3, H0046: 2, H0609: 2, H0046: 2, H0644: 2, H0059: 2, L0386: 2, L0777: 2, L0779: 2, L0778: 1, H0656: 1, H0686: 1, H0656: 1, H0580: 1, H0662: 1, H0550: 1, H0441: 1, H0550: 1, H0641: 1, |
|---|---|
| Glu-140 to Lys-145, Lys-163 to Asp-168, Lys-189 to Phe-197, Arg-257 to Leu-264, Gln-285 to Asp-292, Gly-298 to Ala-308, Arg-314 to Glu-323, Gly-329 to Gly-338, Ser-343 to Leu-353. | Pro-8 to Gly-18, Pro-57 to Ser-67, Lys-183 to Trp-191. |
| | 3046 |
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| | 871 |
| · | 1057915 |
| | HAZAE42 |

| | 158900, 229000, 264900 | |
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| | 4q3 <i>5</i> | |
| H0421: 1, H0544: 1, H0123: 1, L0471: 1, H0012: 1, H0356: 1, H0213: 1, H0087: 1, T0069: 1, H0100: 1, H0646: 1, S0210: 1, L0763: 1, L0625: 1, L0774: 1, L0625: 1, L0774: 1, L0637: 1, L0655: 1, L0807: 1, H0690: 1, H0144: 1, H0690: 1, H0520: 1, H0690: 1, H0520: 1, H0690: 1, H053: 1, S0328: 1, S0378: 1, L0780: 1, L0777: 1, L0780: 1, L0753: 1, | L0439: 9, H0550: 6, S0366: 6, S0364: 4, H0644: 3, S0358: 2, H0549: 2, H0645: 1, S0222: 1, H0370: 1, H0050: 1, H0039: 1, H0032: 1, H0039: 1, H00379: 1, L0438: 1 and S0044: 1. | H0574: 5, S0126: 4, |
| | Phe-1 to Cys-8, L0439: 9, H0550: Ala-10 to Gly-23, S0366: 6, S0364: 4 Gln-114 to Lys-120, H0644: 3, S0358: 2 Glu-129 to Phe-135, H0549: 2, H0645: Ile-155 to Gln-160, S0222: 1, H0370: 1 Ser-193 to Thr-199, H0050: 1, L0471: 1 Asp-214 to Gly-226, S0362: 1, H0039: 1 Asp-236 to Gly-245, H0032: 1, H0212: Ala-283 to Arg-288, H0379: 1, L0438: 1 Ala-322 to Asp-331. S0044: 1. | Arg-20 to Arg-26, |
| | 3047 | 3048 |
| | 3 - 1019 | 1 - 987 |
| | 872 | 873 |
| | 1057948 | 1057958 |
| | HPRBN60 | HOVCZ68 |

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| | 600467, 600882 |
| | 3q13.1- q13.2 |
| Ser-47 to Thr-59, L0748: 4, L0777: 4, Val-83 to Cys-91, L0759: 4, T0039: 3, Asn-94 to Arg-100, H0428: 3, H0644: 3, Asn-94 to Arg-100, H0428: 3, H0644: 3, Asp-120 to Asn- H0331: 2, H0632: 2, L056, L076: 2, H0331: 2, L0632: 2, Cys-135 to Glu-140, L0021: 2, L0632: 2, Cys-184 to Gln-189, H0436: 2, L0776: 2, Lys-246 to Cys-252, H0171: 1, H0685: 1, Cys-259 to Asp-265, H0661: 1, S0132: 1, H0540: 1, E0024: 1, S0250: 1, H0038: 1, H0551: 1, L0794: 1, L0791: 1, L0794: 1, L0791: 1, L0794: 1, L0791: 1, L0796: 1, H0689: 1, S0152: 1, L0779: 1, L0779: 1, L0770: 1, L | Asp-17 to Gly-23, L0777: 6, L0666: 3, Lys-89 to Asp-94, H0648: 3, H0672: 3, Lys-129 to Asp-134, L0747: 3, H0685: 2, Leu-195 to Glu-204. S0376: 2, H0529: 2, L0775: 2, L0778: 2, L0665: 2, S0152: 2, L0665: 2, S0152: 2, |
| Ser-47 to Thr-59, L0748: 4, L0777: 4, Val-83 to Cys-91, L0759: 4, T0039: 3, Asn-94 to Arg-100, H0428: 3, H0644: 3 Asp-120 to Asn-S0194: 3, H0331: 2, H0331: 2, H0331: 2, L0632: 2, Cys-135 to Glu-140, L0021: 2, L0632: 2, Gln-146 to Cys-153, L0805: 2, L0776: 2, Pro-184 to Gln-189, H0436: 2, L0779: 2, Lys-246 to Cys-252, H0171: 1, H0685: 1, Lys-246 to Cys-252, H0171: 1, H0685: 1, H0546: 1, S0132: 1, H0546: 1, S0132: 1, L0799: 1, L0791: 1, L0794: 1, L0791: 1, L0794: 1, L0791: 1, L0796: 1, H0144: 1, L0796: 1, H0689: 1, S0152: 1, L0777: 1, S0192: | Asp-17 to Gly-23, Lys-89 to Asp-94, Lys-129 to Asp-134, Leu-195 to Glu-204. |
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| L0599: 2, H0624: 1, H0265: 1, H0222: 1, H0713: 1, H0638: 1, S0354: 1, S0360: 1, S0408: 1, H0370: 1, H0559: 1, H0486: 1, H0578: 1, H0567: 1, H0674: 1, H090: 1, L0475: 1, S0438: 1, S0002: 1, L0646: 1, L0651: 1, L0766: 1, L0651: 1, L0783: 1, H0519: 1, H0658: 1, H0519: 1, H0658: 1, H0696: 1, S0044: 1, S0406: 1, L0750: 1, | L0/55: 1, H0445: 1, L0366: 1, H0667: 1, S0276: 1, H0543: 1, H0423: 1 and H0506: <u>1</u> | Gly-28 to Ser-36, Trp-38 to Pro-60, L0514: 10, H0484: 8, Pro-98 to Thr-104, H0620: 6, L0769: 6, Pro-113 to Tyr-118, S0418: 5, S0356: 5, Pro-186 to Leu-192, L0747: 5, L0779: 5, Glu-239 to Gly-246, H0543: 5, H0559: 4, Pro-257 to Lys-269, H0618: 4, H0617: 4, Lys-273 to Lys-279: H0087: 4, S0422: 4, |
| | | Gly-28 to Ser-36, L0499: 33, L0493: Trp-38 to Pro-60, L0514: 10, H0484: 8 Pro-98 to Thr-104, H0620: 6, L0769: 6, Pro-113 to Tyr-118, S0418: 5, S0356: 5, Pro-186 to Leu-192, L0747: 5, L0779: 5, Glu-239 to Gly-246, H0543: 5, H0559: 4 Pro-257 to Lys-269, H0618: 4, H0617: 4, Lys-273 to Lys-279: H0087: 4, S0422: 4, |
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| L0497: 4, L0509: 4, | S0376: 3, H0546: 3, | • | L0504: 3, H0686: 2, | H0545: 2, H0571: 2, | H0412: 2, L0507: 2, | L0773: 2, L0512: 2, | L0783: 2, S0126: 2, | L0592: 2, H0136: 2, | H0624: 1, H0170: 1, | H0171: 1, H0556: 1, | S0342: 1, H0341: 1, | H0483: 1, H0663: 1, | H0305: 1, H0638: 1, | S0420: 1, S0444: 1, | S0408: 1, H0438: 1, | H0333: 1, H0257: 1, | T0039: 1, T0109: 1, | | H0251: 1, H0544: 1, | H0083: 1, H0288: 1, | Ť. | H0068: 1, H0163: 1, | H0634: 1, H0616: 1, | H0100: 1, T0041: 1, | H0641: 1, L0763: 1, | L0638: 1, L0639: 1, | L0646: 1, L0644: 1, | L0648: 1, L0662: 1, | L0768: 1, L5564: 1, |
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| L0498: 1, L0806: 1, | L0653: 1, L0655: 1, | L0606: 1, L0629: 1, | L0510: 1, L0511: 1, | L0656: 1, L0665: 1, | S0052: 1, H0690: 1, | H0670: 1, S0328: 1, | H0539: 1, S0152: 1, | H0521: 1, S0406: 1, | L0742: 1, L0748: 1, | L0751: 1, L0731: 1, | L0758: 1, S0436: 1, | L0698: 1 and H0506: 1. | H0547: 14, H0519: 13, | L0803: 12, L0754: 12, | H0543: 12, L0794: 10, | H0423: 10, H0521: 9, | L0748: 9, H0013: 8, | L0805: 8, H0046: 7, | H0266: 7, S0022: 7, | L0439: 7, L0758: 7, | L0599: 7, L0471: 6, | L0666: 6, L0663: 6, | L0731: 6, H0553: 5, | H0040: 5, S0422: 5, | S0002: 5, H0529: 5, | L0659: 5, H0435: 5, | S0152: 5, L0750: 5, | L0752: 5, L0596: 5, |
| | | | | | | | | | | | | | Glu-20 to Leu-35, | Asp-48 to Gly-54. | • | | | | | | | | - | | | · | | |
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| .0591: 5, L0608: 5, | H0170: 4, S0358: 4, | S0360: 4, L0717: 4, | S0222: 4, H0486: 4, | H0318: 4, H0038: 4, | 10494: 4, L0770: 4, | 0761: 4, L0766: 4, | ,0804: 4, L0774: 4, | .0809: 4, L0519: 4, | S0406: 4, L0747: 4, | 10445: 4, L0588: 4, | H0717: 3, H0657: 3, | S0212: 3, H0661: 3, | H0580: 3, H0592: 3, | H0587: 3, H0083: 3, | H0428: 3, H0674: 3, | 10560: 3, L0598: 3, | 0369: 3, L0769: 3, | 0646: 3, L0649: 3, | 0776: 3, L0527: 3, | .0790: 3, L0665: 3, | H0144: 3, H0520: 3, | S0380: 3, L0602: 3, | 40522: 3, S0028: 3, | .0740: 3, L0749: 3, | .0756: 3, H0136: 3, | H0506: 3, H0624: 2, | 171: 2, S6024: 2, | H0583: 2, H0381: 2, | H0662: 2, S0418: 2, |
| 3 | HO | SOS | S0S | OH | OH HO | Lo. | <u> </u> | <u> </u> | S04 | 70H | HO | 202 | HO |)OH | HO HO | HO | | <u>701</u> | L07 | <u> </u> | HO | S03 | HO | <u> </u> | <u>101</u> | H05 | H01 | H05 | H06 |
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| S0420: 2, S0356: 2, | S0476: 2, H0619: 2, | H0431: 2, H0333: 2, | 70109: 2, H0075: 2, | 10599: 2, H0581: 2, | 1052: 2, N0006: 2, | H0179: 2, T0023: 2, | H0644: 2, H0412: 2, | 1100: 2, H0561: 2, | 0641: 2, S0144: 2, | 344: 2, H0538: 2, | 426: 2, L0500: 2, | 638: 2, L0372: 2, |)497: 2, L0650: 2, | L0664: 2, L0438: 2, | 352: 2, 80126: 2, | 0660: 2, H0648: 2, | H0672: 2, H0436: 2, | S3014: 2, L0786: 2, | .0779: 2, L0755: 2, | .0759: 2, L0362: 2, | .0361: 2, L0601: 2, | S0026: 2, H0667: 2, | S0192: 2, H0542: 2, | H0422: 2, L0600: 2, | H0556: 1, T0002: 1, | H0159: 1, S0114: 1, | S0134: 1, H0650: 1, | H0656: 1, S0116: 1, | S0001: 1, H0484: 1, |
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| 1045 | 1063 | 2442 | 448 | 9410 | 1063 | 0045 | 0140 | 0411 | 0550 | 540 | 1057 | 5000 | L0586: | 1042 | 0021 | 1057 | 0010 | 0105 | 0049 | 10305 | 0738 | 0041 | 10562 | 10620 | 200 | 1001 | 0051 | 10510 | 0267 |
| 1, F | 1, E | 1, S | 1, S | 1, S | 1, E | 1, S | 1, S | 1, H | 1, H | 1, H | I, H | 1, T | 1, L | 1, H | i, | 1, H | 1, S | 1, L | 1, S(| 1, H | 1,1 | 1, L | 1, H | 1, H | 1, H | 1, H | 1, S | 1, H | 1, H |
| H0589: 1, H0458: | H0459: 1, H0638: 1 | .0005: 1, S0442: 1 | S0376: 1, S0444: 1 | 408: | H0489: 1, H0637: | S0007: 1, S0045: | S0046: 1, S0140: 1 | 476: | S0278: 1, H0550: | H0441: 1, H0404: | H0600: 1, H0574: | 3485 | 0040: 1, | H0069: 1, H0427: | S0280: 1, L0021: | H0098: 1, H0575: | H0004: 1, S0010: 1 | S0346: 1, L0105: 1 | 474: | H0251: 1, H0309: 1 | 1115: | H0530: 1, L0041: | H0009: 1, H0562: | H0172: 1, H0620: | H0199: 1, H0024: 1 | H0057: 1, H0014: 1 | H0051: 1, S0051: 1 | H0355: 1, H0510: 1, | S6028: 1, H0267: 1, |
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| Ala-358 to Gly-367. [L0806: 3, L0509: 3, | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| S0364: 1, H0040: 1, H0087: 1, T0067: 1, H0412: 1, H0413: 1, L0410: 1, S0440: 1, S0440: 1, S0440: 1, S0440: 1, L05640: 1, L0770: 1, L0646: 1, L0771: 1, L0771: 1, L0773: 1, L0364: 1, L0383: 1, L0364: 1, L0383: 1, L0383: 1, L0804: 1, L0775: 1, L0512: 1, L0775: 1, L0512: 1, L0775: 1, L0512: 1, L0775: 1, L0592: 1, L0590: 1, L0758: 1, S0206: 1, L0758: 1, S0206: 1, L0758: 1, L0594: 1, L0595: 1, L0362: 1, L0595: 1, L0362: 1, L0603: 1, L0607: 1 and S0384: 1. | Arg-29 to Ser-35, L0748: 11, L0747: 9, Ser-79 to Gly-91, L0749: 7, L0439: 6, Pro-105 to Arg-120, L0599: 5, L0779: 4, Thr-168 to Glu-175, L0757: 4, L0758: 4, Phe-187 to Ala-200, L0662: 3, L0766: 3, Arg-272 to Lys-282, L0774: 3, L0659: 3, |
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| | Pro-27 to Lys-32, Pro-37 to Ser-44, Glu-46 to Gln-51, Arg-63 to Asn-71, Gln-125 to Ala-135, Gln-150 to Asn-155. |
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| H0555: 1, L0750: 1, L0756: 1, L0777: 1, L0753: 1, L0755: 1, L0757: 1, L0759: 1, L0597: 1 and S0276: 1. | | AR089: 2, AR096: 2, AR060: 1, AR053: 1, AR061: 1, AR033: 0, AR055: 0, AR104: 0, AR039: 0 S0358: 5, H0596: 2, H0059: 2, S0354: 1, H0263: 1, L0764: 1, L0639: 1, L0768: 1, L0659: 1, S0374: 1, H0660: 1, H0672: 1, S0380: 1 and L0731: 1. | L0655: 10, L0664: 9, L0751: 8, H0521: 7, S0360: 5, H0486: 5, L0777: 4, H0657: 3, H0638: 3, L0743: 3, L0763: 3, L0743: 3, L0762: 2, H0637: 2, H0581: 2, H0690: 2, L0768: 2, L0651: 2, L0653: 2, L0659: 2, |
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| L0665: 2, H0659: 2, | H0648: 2, L0755: 2, | H0445: 2, H0650: 1, | H0656: 1, L0808: 1, | H0254: 1, H0255: 1, | H0669: 1, H0663: 1, | H0402: 1, S0358: 1, | H0580: 1, H0586: 1, | <u>_</u> | H0069: 1, H0318: 1, | H0085: 1, H0051: 1, | H0271: 1, H0252: 1, | H0644: 1, H0182: 1, | H0598: 1, H0591: 1, | H0063: 1, H0272: 1, | H0646: 1, S0426: 1, | L0371: 1, L0638: 1, | L0639: 1, L0761: 1, | L0372: 1, L0643: 1, | Ξ, | L0773: 1, L0648: 1, | L0662: 1, L0767: 1, | • | L0774: 1, L0375: 1, | L0378: 1, L0776: 1, | L0606: 1, L0657: 1, | L0518: 1, L0782: 1, | L0809: 1, L0666: 1, | L0663: 1, H0684: 1, | H0670: 1, S0044: 1, |
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| | Glu-42 to Leu-48, His-56 to Cys-62, Ala-107 to Pro-119, I |
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| H0622: 2, L0142: 2, | H0181: 2, H0412: 2, | .0351: 2, | .0640: 2, L0800: 2, | .0648: 2, L0662: 2, | L0789: 2, | .0664: 2, L0665: 2, | .0438: 2, H0689: 2, | H0555: 2, S3014: 2, | .0741: 2, L.0743: 2, | .0754: 2, L0747: 2 | :585 | 13: 1 | H0716: 1, S6024: 1, | 12: 1 | 18:1 | 58: 1 | 76: 1 | 94: 1 | 4 | :25 | H0587: 1, H0427: | .06: 1 | 53: | 18:] | 11: | H0041: | H0566: 1 | H0050: 1, L0471: 1 | <u></u> |
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| H0051: 1, S0051: 1, H0284: 1, H0428: 1, H0428: 1, H0182: 1, H0606: 1, H0124: 1, H0616: 1, H0100: 1, L0370: 1, S0208: 1, L0520: 1, L0770: 1, L5575: 1, L0770: 1, L5575: 1, L0775: 1, L0776: 1, L0655: 1, L0383: 1, L0655: 1, H0690: 1, H0660: 1, S0328: 1, S0330: 1, H0696: 1, L0777: 1, L0778: 1, L0777: 1, L0778: 1, L0777: 1, L0759: 1, H0445: 1, S0436: 1, S0436: 1, S0436: 1, S0436: 1, S0436: 1, S0436: 1, L0608: 1, L0601: 1, S0242: 1 and H0352: 1. | AR039: 28, AR053: 20, AR055: 19, AR033: 17, AR052: 16, AR089: 15, AR104: 12, AR061: 12, AR096: 11, AR060: 11 H0615: 2, L0766: 2, S0114: 1, H0650: 1, |
| | Thr-17 to Lys-23, Lys-93 to Arg-98. |
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| H0657: 1, L0791: 1, H0689: 1, S0152: 1, S0260: 1 and H0445: 1. | L0666: 3, L0657: 2, H0689: 2, H0555: 2, L0751: 2, S0001: 1, S0360: 1, H0675: 1, S0132: 1, H0549: 1, T0114: 1, H0599: 1, L0022: 1, H0594: 1, H0688: 1, S0364: 1, H0688: 1, S0364: 1, L0761: 1, L0649: 1, L0761: 1, L0649: 1, L0761: 1, H0658: 1, H0660: 1, H0658: 1, H0659: 1, H0658: 1, H0659: 1, H0658: 1, H0659: 1, H0658: 1, L0743: 1, L0754: 1 and L0743: 1, L0754: 1 and | H0052: 20, H0264: 5, H0194: 4, T0010: 4, H0435: 4, H0436: 4, H0543: 4, S0222: 3, L0439: 3, H0069: 2, H0618: 2, H0581: 2, H0012: 2, H0617: 2, | |
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| L0756: 2, S0040: 1, H0662: 1, S0045: 1, H0549: 1, H0550: 1, H0370: 1, T0060: 1, L0022: 1, H0615: 1, H0623: 1, H0659: 1, H0623: 1, L0520: 1, L0772: 1, L0562: 1, L0772: 1, L0662: 1, L0768: 1, L0769: 1, L0768: 1, L0769: 1, L0664: 1, H0144: 1, H059: 1, L0663: 1, L0664: 1, H0144: 1, H0547: 1, S0330: 1, H0539: 1, L0768: 1, L0744: 1, L0748: 1, | H0657: 6, H0484: 6, S0046: 5, H0486: 5, L0666: 5, L0750: 5, H0543: 5, S0360: 4, S0010: 4, H0617: 4, S0036: 4, L0766: 4, H0056: 4, L0766: 4, H0656: 3, H0292: 3, L0455: 3, H0135: 3, L0769: 3, L0439: 3, |
| | Asp-33 to Arg-39, Ala-43 to Leu-48, Glu-256 to Gin-266, Gly-305 to Ile-311, Pro-314 to Ala-320, Gln-388 to Asn-394. |
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| 176960, | 180860, | 249000, | 253250, | 264470 | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0752: 3, L0758: 3, | L0362: 3, S0430: 2, | H0341: 2, S0358: 2, | S0474: 2, H0052: 2, | H0046: 2, L0471: 2, | H0356: 2, H0284: 2, | H0553: 2, H0063: 2, | H0646: 2, L0761: 2, | L0768: 2, L0776: 2, | L0657: 2, L0659: 2, | L0664: 2, L0565: 2, | H0520: 2, H0519: 2, | H0689: 2, H0658: 2, | H0521: 2, H0696: 2, | S0044: 2, S0027: 2, | L0747: 2, L0749: 2, | L0591: 2, L0604: 2, | H0423: 2, L0615: 1, | H0685: 1, H0713: 1, | H0483: 1, H0255: 1, | H0663: 1, H0306: 1, | S0420: 1, S0444: 1, | H0580: 1, S0007: 1, | H0393: 1, H0411: 1, | S0278: 1, H0441: 1, | H0392: 1, H0438: 1, | H0586: 1, H0331: 1, | T0109: 1, H0013: 1, | H0427: 1, L0021: 1, | H0575: 1, H0618: 1, |
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| 1251 | 450 | 024 | 566 | 039 | 4 | 181 | H0090: | 8 | 087 | 413 | 038 | H0494: 1 | 366 | S0438: | 130 | 14497: 1 | 770 | 372 | L0764: 1 | 363 | 83 | 650 | L0375: | L0655: | L0383: | L0793: | 999 | 374 | 438 |
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| 4: 1 | 9.1 | 0:1 | %: <u>1</u> , | 2: 1, | 1:1 | 8: 1 | 4: 1 | 1:1 | 6: 1 | 1:1 | 3:1 | 2: 1 | 1:1 | 4: 1. | 1. | 2: 1 | 0:1 | 6:1 | 9: 1 | 2: 1 | 4: 1 | 4: 1 | 5: 1. | 5:1 | 5: 1, | 9. | 3: 1, | 4: 1 | 1:1 |
| H0374: 1, H0251: 1 | H0309: 1, H0544: 1 | 015 | 602 | 90 | H0031: 1, H0644: 1 | 062 | H0124: 1 | H0591: 1, H0040: | H0616: 1, H0087: | 055 | H0623: 1 | 0042: 1, | H0561: 1 | S0294: 1, | 30440: 1, | .0762: 1 | .0500: 1, | .0796: 1 | 0800: 1 | .0662: 1 | .0794: 1 | ,0804: 1 | 0775: 1 | .0805: 1 | .0526: 1, | 051 | L0663: 1, L0665: | 014 | H0691: 1, L0438: |
| 王 | 耳 | 工 | S | S | 프 | 王 | 工 | 王 | 王 | 프 | 프 | F | 프 | S | Ś | <u> </u> | | | <u> </u> | ב | <u></u> | _1 | 1 | <u> </u> | Ц | <u> </u> | <u> </u> | 王 | 工 |
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| H0683: 1, H0435: 1, H0670: 1, H0672: 1, H0539: 1, H0710: 1, S0152: 1, S0350: 1, L0612: 1, L0741: 1, L0748: 1, L0596: 1, L0599: 1, S0011: 1, H0668: 1, H0653: 1, H0667: 1, S0192: 1, S0192: 1, S0192: 1, S0276: 1 and H0422: 1. | AR060: 23, AR104: 21, AR089: 11, AR061: 8, AR096: 7, AR055: 6 L0803: 10, L0451: 8, S0250: 6, L0804: 6, L0731: 5, S0212: 4, H0431: 4, H0547: 4, L0439: 4, L0777: 4, S0360: 3, L0777: 4, S0360: 3, L0777: 2, L0592: 3, H0717: 2, L0592: 3, H0717: 2, H0004: 2, H0046: 2, L0471: 2, H0553: 2, H0090: 2, H0063: 2, L0774: 2, L0775: 2, |
| 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 | 3073 Gly-1 to Leu-6. 2 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
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| L0655: 2, L0659: 2, | L0517: 2, L0809: 2, | S0126: 2, S0152: 2, | L0752: 2, H0170: 1, | T0049: 1, S0218: 1, | H0650: 1, H0661: 1, | L0534: 1, L0562: 1, | S0376: 1, H0619: 1, | - | H0492: 1, H0069: 1, | L0021: 1, H0042: 1, | H0318: 1, H0581: 1, | H0421: 1, H0251: 1, | H0057: 1, H0266: 1, | H0428: 1, H0039: 1, | L0483: 1, H0031: 1, | H0644: 1, H0135: 1, | H0591: 1, H0040: 1, | H0056: 1, S0038: 1, | S0014: 1, H0560: 1, | S0438: 1, H0538: 1, | .0763: 1, L0769: 1, | L3905: 1, L0772: 1, | L0764: 1, L5574: 1, | .0651: 1, L0789: 1, | .0663: 1, H0144: 1, | H0658: 1, H0672: 1, | S0328: 1, S0406: 1, | H0555: 1, S3012: 1, | 80390: 1, L0748: 1, |
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| | 125852, 126452, 126452, 141900, 141900, 141900, 141900, 142200, 142200, 142200, 176730, 176730, 190020, 191290, 192500, 192500, |
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| | 11p15.5 |
| L0750: 1, L0779: 1, L0780: 1, L0755: 1, L0758: 1, L0759: 1, S0260: 1, H0445: 1, S0434: 1, L0593: 1, S0192: 1, S0194: 1, H0423: 1, S0424: 1 and H0506: 1. | AR039: 2, AR089: 1, AR060: 1, AR033: 1, AR096: 0, AR061: 0, AR053: 0, AR055: 0, AR104: 0 H0415: 1 and L0751: 1. |
| L07 L07 S02 S04 H04 H05 | |
| · . | 3074 Ala-18 to Gly-23 |
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| 194071, | 204500, | 600856, |)1680, | 602631, | 602631 | | | | | | | | | | | | | | | | | | - | | | | | |
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| | | | | | | Arg-1 to Gly-6. | | | | | | | | | | | | | | | | | | | | | ٠ | |
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| H0584: 18, L0731: 17, | S0372: 16, L0766: 14, | .0740: 12, L0749: 12, | 0752: 12, S0358: 11, | 0750: 11, S0360: 9, | H0013: 9, S0003: 9, | H0341: 8, S0420: 8, | H0038: 8, H0144: 8, | .0593: 8, H0040: 7, | .0665: 7, L0755: 7, | .0757: 7, L0591: 7, | .0608: 7, L0438: 6, | .0439: 6, L0759: 6, | S0026: 6, S0424: 6, | H0052: 5, L0748: 5, | .0751: 5, L0777: 5, | J0758: 5, L0362: 5, | H0543: 5, H0556: 4, | H0663: 4, H0333: 4, | H0545: 4, H0266: 4, | H0591: 4, L0771: 4, | J0774: 4, L0776: 4, | .0666: 4, H0521: 4, | .0745: 4, L0588: 4, | .0594: 4, H0140: 3, | H0686: 3, S0007: 3, | S0045: 3, H0411: 3, | S0222: 3, H0431: 3, | H0575: 3, L0471: 3, | r0003: 3, S6028: 3, |
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| H0188: 3, H0687: 3, | S0214: 3, H0615: 3, | 10622: 3, H0413: 3, | 94: 3, S0422: 3, | 3, L0783: 3, | L0744: 3, L0753: 3, | t5: 3, L0592: 3, | il: 3, L0697: 3, | 24: 2, H0170: 2, | 55: 2, T0002: 2, | 18: 2, S0040: 2, | 57: 2, S0354: 2, | 6: 2, H0393: 2, | 7: 2, H0497: 2, | 74: 2, H0486: 2, | 99: 2, S0010: 2, | 6: 2, H0318: 2, | H0288: 2, S0022: 2, | 28: 2, H0039: 2, | 70006: 2, H0617: 2, | H0674: 2, H0135: 2, | H0616: 2, S0382: 2, | S0326: 2, S0002: 2, | 3: 2, L0638: 2, | .0764: 2, L0521: 2, | 0662: 2, L0649: 2, | .0775: 2, L0651: 2, | .0606: 2, L0657: 2, | .0526: 2, H0670: 2, | H0660: 2, H0672: 2, |
| H018 | S021 | H062 | H049 | 9207 | L074 | H044 |)F03 | H062 | H026 | H021 | H065 | S037 | L071 | H057 | H059 | S034 | H028 | H042 | T000 | H067 | H061 | 8032 | 9207 | 9/07 |)990 <u>7</u> | 1707 | 0907 | L052 | 990H |
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| SO152.2 HO626.2 | 0746: 2, 1.0596: 2. | 599: 2, L0604: 2, | ,0601: 2, H0667: 2, | L0615: 1, H0225: 1, |)220: 1, S0470: 1, |)295: 1, T0049: 1, | S0218: 1, H0650: 1, | 785: 1, S0212: 1, |)483: 1, H0664: 1, | 0402: 1, H0459: 1, | 0638: 1, H0125: 1, |)418: 1, T0008: 1, | 0046: 1, H0619: 1, | H0645: 1, H0549: 1, | 0370: 1, H0415: 1, | H0438: 1, H0612: 1, | T0039: 1, H0635: 1, | H0427: 1, S0280: 1, | 0082: 1, H0618: 1, | H0253: 1, T0048: 1, | 0071: 1, H0421: 1, | S0049: 1, H0209: 1, | (0194: 1, H0085: 1, | H0046: 1, H0567: 1, | H0172: 1, H0012: 1, | 10024: 1, H0373: 1, | r0010: 1, H0375: 1, | .0171: 1, H0594: 1, | H0271: 1, H0028: 1, |
| 05 | | | <u>3</u> | 2 |)H |)H | 0S | 27 | H | H |)H | 28 | S | H | H | H | <u>T</u> | | Ĕ | <u> </u> | <u> </u> | Š | <u> </u> | <u> </u> | <u> </u> | <u></u> | <u> </u> | | — |
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| H0328: 1, L0483: 1, | H0553: 1, H0628: 1, | HO598: 1, HO598: 1, | H0163: 1, H0090: 1, | 10634: 1, H0264: 1, | 10272: 1, H0412: 1, | H0059: 1, S0038: 1, | 351: 1, L0564: 1, | r0041: 1, S0016: 1, | H0560: 1, S0464: 1, | 166: 1, L0065: 1, | H0132: 1, H0131: 1, | H0633: 1, S0144: 1, | S0142: 1, S0426: 1, | .0598: 1, L0520: 1, | .0762: 1, L0770: 1, | 0761: 1, L0772: 1, | 0646: 1, L0648: 1, | J0768: 1, L0794: 1, | .0388: 1, L.0803: 1, | .0527: 1, L0656: 1, | 0634: 1, L0518: 1, | .0382: 1, L0809: 1, | .0791: 1, L0664: 1, | .0565: 1, H0693: 1, | H0520: 1, H0547: 1, | H0593: 1, S0126: 1, | H0659: 1, H0648: 1, | S0328: 1, S0330: 1, | H0539: 1, L0602: 1, |
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| | AR089: 4, AR039: 3, AR033: 2, AR096: 2, AR104: 2, AR060: 2, AR055: 0 S0040: 1, S0114: 1, H0412: 1, S0386: 1, S0472: 1, L0649: 1, L0803: 1, S0053: 1, L0748: 1 and H0543: 1. | L0754: 4, L0766: 3, L0803: 3, H0648: 3, L0758: 3, L0800: 2, L0775: 2, L0666: 2, L0747: 2, L0779: 2, S0116: 1, S0358: 1, H0574: 1, L0021: 1, L0022: 1, S0003: 1, H0615: 1, L0351: 1, |
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| <u>д д V) 0/ ц д д V) 9/ 9/ д</u> | Asn-1 to Gln-6, Thr-71 to Ala-77, Cys-114 to Ser-126, Pro-147 to Tyr-156, Gly-176 to Gly-182, | Pro-6 to Lys-19. |
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| L0667: 1, L0764: 1, L0768: 1, L0806: 1, L0379: 1, L0659: 1, L0647: 1, L0791: 1, L0792: 1, L0663: 1, L0664: 1, L0665: 1, S0330: 1, L0748: 1, L0439: 1, L0777: 1 and L0599: 1. | L0769: 6, L0757: 5, L0777: 3, L0731: 3, H0428: 2, L0809: 2, S0404: 2, L0748: 2, L0758: 2, H0575: 1, H0544: 1, H0646: 1, L0773: 1, L0662: 1, L0768: 1, L0775: 1, L0782: 1, L0778: 1, L0782: 1, L0749: 1, and L0747: 1, L0749: 1 and | AR089: 2, AR053: 2, AR061: 2, AR039: 2, AR060: 2, AR096: 1, AR033: 1, AR055: 1, AR104: 1, AR052: 0 L0664: 3, S0354: 2, H0617: 2, L0509: 2, H0670: 2, L0601: 2, |
| | Ser-38 to Gly-43, Gln-80 to Ile-93, Leu-104 to Arg-109. | Pro-11 to Arg-21, Gly-34 to Ser-41, Pro-65 to Asn-72, Ser-80 to Gln-85, Phe-124 to Cys-129. |
| | 3080 | 3081 |
| | 2 - 358 | 32 - 1348 |
| · | 506 | 906 |
| | 1059241 | 1059394 |
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| | | 19q13.1 |
| H0170: 1, H0510: 1, H0622: 1, H0604: 1, L0662: 1, H0689: 1 and H0683: 1. | AR096: 2, AR089: 1, AR055: 1, AR033: 0, AR050: 0, AR104: 0, AR052: 0, AR104: 0, AR053: 0 H0666: 15, H0622: 5, L0809: 3, L0731: 2, H0586: 1, H0032: 1, H0488: 1, L3905: 1, L0766: 1, L0803: 1, L0766: 1, L0656: 1, L0779: 1, L0777: 1, L0779: 1, L0777: 1, H0707: 1, S0424: 1 and | 16, 5, 11, |
| <u>нны</u> | Gly-1 to Asn-7, Lys-12 to Glu-20, Asn-34 to Gly-41, Val-79 to Asn-88. I | Ser-1 to Trp-7, Asp-47 to Ile-52, Pro-70 to Ser-80, Ala-131 to Ser-142, Phe-169 to Cys-176, S0360: 8, L0649: 9 Phe-202 to Pro-209, S0354: 7, L0754: 7, Arg-243 to Ala-249, H0663: 6, S0376: 6, Ser-256 to Lys-265. So444: 6, H0592: 6, |
| | 3082 | 3083 |
| | 802 - 491 | 382 - 1191 |
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| H0586: 6, H0618: 6, | H0620: 6, L0637: 6, | .0646: 6, L0766: 6, | .0666: 6, H0295: 5, | H0661: 5, H0497: 5, | 653: 5, H0593: 5, | 758: 5, S0356: 4, | H0580: 4, H0615: 4, | F0023: 4, H0038: 4, |)647: 4, L0772: 4, | .0768: 4, L0657: 4, | S0374: 4, H0685: 3, | H0483: 3, S0442: 3, | H0253: 3, H0581: 3, | H0604: 3, H0031: 3, | H0553: 3, H0617: 3, | H0488: 3, S0440: 3, | H0641: 3, L0794: 3, | .0664: 3, H0666: 3, | S0380: 3, L0439: 3, | 750: 3, L0596: 3, | H0294: 2, H0656: 2, | H0664: 2, H0662: 2, | H0676: 2, S0408: 2, | H0370: 2, H0392: 2, | H0409: 2, H0587: 2, | H0046: 2, H0009: 2, | H0012: 2, H0083: 2, | H0688: 2, H0213: 2, | H0030: 2, H0040: 2, |
|)H | H | <u>김</u> | <u>21</u> | H | <u>3</u> | 2 | H | <u>01</u> | H | 3 | SO | H | H | H | H | H | HC | <u>ੂ</u> | 0S | <u>3</u> | HC | HC |)H) |)HO | HO | HO | HO | HO | HO |
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| H0059: 2, H0633: 2, | H0646: 2, S0422: 2, | .0763: 2, L0771: 2, | .0382: 2, S0052: 2, | H0144: 2, S0310: 2, | H0689: 2, H0658: 2, | H0670: 2, H0660: 2, | S0328: 2, H0522: 2, | 2, H0478: 2, | 2, L0749: 2, | .0731: 2, L0759: 2, | S0434: 2, H0543: 2, | S0424: 2, H0506: 2, | i, H0650: 1, | H0657: 1, S0116: 1, | 1, T0008: 1, | l, H0550: 1, | H0486: 1, T0114: 1, | 1, H0318: 1, | 1, H0263: 1, | H0234: 1, H0596: 1, | 1, H0121: 1, | | 1, H0687: 1, | 1, H0039: 1, | H0622: 1, H0033: 1, | 1, H0032: 1, | H0673: 1, H0169: 1, | S0036: 1, H0616: 1, | F0067: 1, H0264: 1, |
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| H0059: 2 | H0646: 2 | L0763: 2 | L0382: 2 | H0144: 2 | H0689: 2 | H0670: 2 | S0328: 2 | H0696: 2 | L0744: 2 | L0731: 2 | \$0434: 2 | S0424: 2 | S0430: 1 | H0657: 1 | H0484: 1 | S0132: 1 | H0486: 1 | L0021: 1 | H0309: 1 | H0234: | H0597: | H0150: | H0375: 1, | H0428: 1, | H0622: | H0644: 1, | H0673: | S0036: 1 | T0067: 1 |
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| H0560: 1, H0625: 1, S0466: 1, S0150: 1, S0472: 1, S0144: 1, S0002: 1, L0640: 1, L0770: 1, L0761: 1, L0372: 1, L0764: 1, L0372: 1, L0764: 1, L0373: 1, L0364: 1, L0375: 1, L0806: 1, L0375: 1, L0806: 1, L0655: 1, L0493: 1, L0655: 1, H0693: 1, H0648: 1, H0690: 1, H0648: 1, H0672: 1, S0330: 1, S0392: 1, S0330: 1, S0392: 1, L0757: 1, L0741: 1, L0757: 1, L0745: 1, L0592: 1, L0599: 1, L0592: 1, L0603: 1, L0361: 1, L0603: 1, | S0446: 1 and L0600: 1. | H0435: 20, L0751: 20, H0436: 6, L0665: 5, H0052: 4, S0036: 4, |
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| | | Gln-37 to Arg-58, H0435: 20, L0751: Arg-75 to Met-87, H0436: 6, L0665: 5, Lys-113 to Asn-123, H0052: 4, S0036: 4, |
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| 0438: 4, H0264: 3, 0265: 2. H0261: 2. | S0222: 2, T0010: 2, | L0770: 2, L0764: 2, | L0648: 2, H0547: 2, | H0682: 2, H0672: 2, | L0748: 2, L0756: 2, | 0031: 2, H0423: 2, | H0556: 1, H0295: 1, | S0134: 1, S0282: 1, | 10255: 1, H0661: 1, | 10663: 1, S0356: 1, | 0360: 1, H0619: 1, | .0717: 1, S6014: 1, | H0415: 1, H0643: 1, | H0486: 1, H0156: 1, | H0618: 1, S0010: 1, | H0581: 1, S0049: 1, | H0457: 1, H0050: 1, | H0012: 1, H0320: 1, | H0354: 1, H0271: 1, | .0140: 1, H0063: 1, | H0272: 1, H0494: 1, | H0646: 1, L0761: 1, | _0644: 1, L0771: 1, | _0774: 1, L0788: 1, | H0698: 1, H0593: 1, | H0658: 1, H0648: 1, | S0328: 1, S0330: 1, | H0518: 1, L0744: 1, |
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| L0439: 1, L0749: 1, L0758: 1, L0759: 1 and S0260: 1. | H0083: 17, H0556: 14, H0265: 7, L0794: 6, H0271: 5, H0543: 5, L0766: 4, L0809: 4, H0436: 3, H0635: 2, H0150: 2, S0114: 1, H0650: 1, H0645: 1, H0646: 1, H0438: 1, H0615: 1, H0438: 1, H0615: 1, H0438: 1, L0667: 1, L0657: 1, L0657: 1, L0656: 1, L0656: 1, L0665: 1, L0665: 1, L0663: 1, L0665: 1, L0663: 1, H0670: 1, L0783: 1, H0670: 1, L0783: 1, H0670: 1, L0783: 1, H0670: 1, L0783: 1, H06423: 1 and H0542: 1, H0423: 1 and H0542: 1, | • |
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| L0794: 2, L0499: 2, | L0653; 2, L0776; 2, | L0659: 2, H0648: 2, | H0521: 2, H0555: 2, | L0747: 2, L0750: 2, | H0445: 2, H0650: 1, | H0656: 1, H0255: 1, | S0356: 1, S0140: 1, | L0717: 1, S0278: 1, | S0280: 1, H0274: 1, | H0050: 1, H0015: 1, | H0083: 1, H0688: 1, | H0606: 1, H0124: 1, | T0067: 1, S0002: 1, | S0426: 1, L0763: 1, | L0772: 1, L0771: 1, | L0784: 1, L0629: 1, | L0382: 1, L0663: 1, | L0665: 1, H0689: 1, | H0672: 1, H0522: 1, | H0436: 1, L0780: 1, | L0752: 1, L0731: 1 and | H0422: 1. | L0748: 19, L0754: 15; | H0046: 13, L0751: 10, | H0013: 8, S0152: 8, | H0623: 7, H0644: 6, | L0662: 6, L0666: 6, | L0438: 6, L0740: 6, | |
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| L0776: 4, L0750: 4, | LU/31: 4, S0022: 3, H0591: 3, | L0665: 3, H0547: 3, | S0390: 3, S0206: 3, | L0591: 3, | H0686: 2, | S0282: 2, S0444: 2 | S0045: 2, | H0351: 2, | H0486: 2, | H0052: 2, | H0015: 2, H0553: 2 | H0488: 2, | H0652: 2, | L0627: 2, | L0766: 2, | L0653: 2, | H0519: 2, | L0742: 2, |
| 10806: 4, 10439: 4, 10439: 4, 10439: 4 | 20442: 3, 3 H0032: 3, | L0769: 3, H0144: 3, | H0539: 3, S0028: 3. (| L0759: 3, | H0624: 2, | S0212: 2, 5 H0662: 2 | H0637: 2, | H0619: 2, | H0586: 2, | H0042: 2, | N0006: 2, H0039: 2 | H0135: 2, | H0646: 2, | L0369: 2, 1 | L0764: 2, 1 | L0774: 2, 1 | L0565: 2, 1 | H0593: 2, |
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| L0743: 2, L0749: 2, | S0434: 2, S0436: 2, | L0596: 2, L0589: 2, | 171: 1, H0713: 1, | 717: 1, H0716: 1, | 583: 1, H0650: 1, | H0657: 1, S0116: 1, | 001: 1, H0661: 1, | H0663: 1, H0638: 1, | 354: 1, H0722: 1, | S0132: 1, L0717: 1, | 3443: 1, S0222: 1, | 3431: 1, H0609: 1, | 0587: 1, H0331: 1, | H0632: 1, T0039: 1, | r0060: 1, H0069: 1, | 0635: 1, H0156: 1, | H0599: 1, H0118: 1, | F0082: 1, S0010: 1, | 3346: 1, T0048: 1, | H0374: 1, H0194: 1, | 0309: 1, H0545: 1, | 0563: 1, L0471: 1, | 0350: 1, H0014: 1, | (0051: 1, H0266: 1, | 10687: 1, S0003: 1, | H0688: 1, T0023: 1, | .0483: 1, H0031: 1, | ,0055: 1, H0674: 1, | S0036: 1, H0038: 1, |
| 10, | 20°S | EO. | OH OH | OH. | OH OH | OH HO | <u>S</u> | HO | <u>80</u> | <u>S</u> |)H | H |)H |)H | 판 | Ħ | H |)T | S | Ĭ | 耳 | Ī | 豆 | 耳 | <u>ਜ਼</u> | Œ | Ð | <u> </u> | <u> </u> |
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| H0616: 1, H0264: 1, | H0056: 1, H0059: 1, | 169: 1, S0386: 1, | J0351: 1, L0435: 1, | H0280: 1, H0359: 1, | S0450: 1, S0438: 1, | 44: 1, S0422: 1, | S0002: 1, H0529: 1, | .0640: 1, L0763: 1, | .0638: 1, L0796: 1, | .0765: 1, L0363: 1, | .0768: 1, L0649: 1, | .0561: 1, L0388: 1, | .0650: 1, L.0775: 1, | .0784: 1, L.0633: 1, | .0628: 1, L0809: 1, | .0519: 1, L0790: 1, | .0663: 1, L0664: 1, | H0520: 1, H0684: 1, | H0435: 1, H0660: 1, | S0378: 1, S0380: 1, | H0522: 1, H0696: 1, | S0146: 1, H0436: 1, | H0345: 1, S3014: 1, | .0744: 1, L0752: 1, | S0031: 1, H0707: 1, | .0592: 1, L0361: 1, | S0011: 1, S0192: 1, | S0242: 1, S0460: 1, | H0677: 1, S0446: 1 and |
| HOC | HOC | 700 | 103 103 | HOZ | S04 | S03 | 008 | 907 | 907 | 107 | 107 | 105 | 907 | 107 | 90 <u>7</u> | 207 | 907 | HOS | H04 | 803 | HOS | S01 | H03 | <u> </u> | 008 | 507 | <u>800</u> | 805 | 90H |
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| | 106165, | 117700, | 126451, | 150210, | 169600, | 180380, | 180380, | 180380, | 190000, | 203500, | 232050, | 276902, | 600882, | 601199, | 601199, | 601199, | 601471, | 601682 | | | | | | | | | | |
| | 3q13.3-q21 | | | | | | | | | • | | | | | | | | | | | | | | | | | | |
| H0008: 1. | AR096: 5, AR055: 3, | | 2, AR039: | | (4 | L0750: 14, L0754: 13, | L0766: 8, L0776: 8, | L0752: 8, L0757: 8, | L0747: 6, L0744: 5, | L0769: 4, L0779: 4, | L0777: 4, S0420: 3, | L0770: 3, L0755: 3, | L0758: 3, L0471: 2, | L0771: 2, L0775: 2, | L0806: 2, L0659: 2, | S0126: 2, H0670: 2, | L0743: 2, L0759: 2, | L0604: 2, H0624: 1, | H0685: 1, H0650: 1, | H0484: 1, H0483: 1, | H0661: 1, S0358: 1, | S0360: 1, S0046: 1, | H0411: 1, H0632: 1, | H0427: 1, S0280: 1, | H0097: 1, H0004: 1, | S0049: 1, H0024: 1, | H0028: 1, H0622: 1, | L0142: 1, H0708: 1, |
| | Pro-81 to Lys-89, | | | Arg-194 to Met-199, AR104: | Pro-203 to Arg-213, | Pro-249 to Ala-262, 1 | Ser-274 to Glu-279, | Asp-301 to Trp-309, | | | | | | | | | | | | | | | | | | | - | |
| | 3088 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | 2- 118504, 118504, 131242, 139320, 139320, 139320, 602025, 602235 |
| | | 20q13.2- q13.3 |
| H0591: 1, L0763: 1, L0772: 1, L0800: 1, L0764: 1, L0662: 1, L0768: 1, L0794: 1, L0803: 1, L0774: 1, L0807: 1, L0809: 1, L0666: 1, L0665: 1, S0148: 1, S0328: 1, S0406: 1, S0028: 1, L0599: 1, S0026: 1 and H0667: 1. | S0001: 1, H0125: 1, H0580: 1, H0581: 1, H0457: 1, H0428: 1, L0627: 1, H0521: 1 and L0749: 1. | L0748: 19, L0758: 6, L0794: 5, L0766: 5, L0749: 4, H0038: 3, H0494: 3, L0771: 3, H0550: 3, H0288: 2, H0551: 2, L0665: 2, L0438: 2, H0547: 2, H0659: 2, L0591: 2, L0595: 2, H0177: 1, S0418: 1, S0046: 1, H0393: 1, L0717: 1, |
| | | Asp-19 to Ile-26, Lys-86 to Leu-96, Pro-108 to Leu-119, Ser-121 to Gin-144, Ser-243 to Ala-251, Pro-299 to Thr-305, Asn-349 to Ser-359, Leu-381 to Pro-389, Asn-403 to Ser-420. |
| | 3089 | 3090 |
| | 206 - 496 | 8 - 1267 |
| | 914 | 915 |
| | 1059784 | 1059849 |
| | нррwк69 | НРСОК03 |

| | 102772, 106210, 106210, 106210, 107271, 114550, 115500, 115500, 115500, 179615, 179615, 179615, 179616, 180385, |
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| | 11p13 |
| T0110: 1, H0553: 1, H0412: 1, H0413: 1, H0623: 1, S0112: 1, T0042: 1, H0529: 1, L0369: 1, L0769: 1, L046: 1, L0800: 1, L0657: 1, L0655: 1, L0789: 1, H0702: 1, H0684: 1, H0648: 1, S0152: 1, H0522: 1, H0626: 1, L0777: 1, L0747: 1, L0777: 1, L0608: 1, H0668: 1 and H0667: 1. | 2091 Pro-26 to Ser-35, L0754: 10, H0251: 9, Lys-46 to Arg-63, L0591: 9, S0212: 8, Ile-71 to Asp-76, S0003: 7, L0771: 7, Lys-105 to Ile-115, S0192: 7, L0805: 6, Glu-119 to Tyr-125, H0616: 5, L0776: 5, His-136 to His-141, H0689: 5, L0777: 5, Lou-148 to Arg-154, L0777: 5, L0757: 5, Thr-165 to Glu-170, L0759: 5, H0624: 4, Asp-194 to Gly-201, S0420: 4, S0360: 4, Glu-216 to Pro-222, L0471: 4, H0124: 4, Ser-227 to Phe-232, H0551: 4, H0413: 4, Arg-236 to Glu-248, L0769: 4, L0517: 4, Glu-271 to Lys-282, S0126: 4, S3014: 4, Ala-297 to Leu-311. L0756: 4, L0755: 4, L0755: 4, L0755: 4, L0731: 4, S0045: 3, L0731: 4, S0045: 3, |
| | 3 - 935 |
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| | HVVBP14 |

| 194070, | 194070, | 245349 | | | | - | | | | | | | | | | | | | | | | | | | | | | | |
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| H0575: 3, H0031: 3, | H0068: 3, H0509: 3, | .0665: 3, H0658: 3, | 0406: 3, S0027: 3, | .0439: 3, L0751: 3, | L0745: 3, L0749: 3, | .0750: 3, L0779: 3, | .0753: 3, L0758: 3, | I0171: 2, T0049: 2, | 10663: 2, S0418: 2, | 30356: 2, S0358: 2, | H0632: 2, H0486: 2, | .0477: 2, T0039: 2, | H0013: 2, H0421: 2, | H0544: 2, H0023: 2, | S0022: 2, S0214: 2, | H0615: 2, H0553: 2, | H0032: 2, H0135: 2, | H0591: 2, H0264: 2, | H0412: 2, H0647: 2, | .0659: 2, L0540: 2, | .0783: 2, L0530: 2, | .0789: 2, L0663: 2, | .0664: 2, H0144: 2, | 30374: 2, H0682: 2, | H0435: 2, H0672: 2, | S3012: 2, L0752: 2, | S0434: 2, L0592: 2, | .0581: 2, S0026: 2, | S0194: 2, S0424: 2, |
| | <u> </u> | <u> </u> | S | <u>-</u> | <u> </u> | | | | <u> </u> | S | <u> </u> | | <u>正</u> | <u> </u> | <u>S</u> | <u>出</u> | <u> </u> | <u></u> | <u>正</u> | | <u>.</u> | <u> </u> | <u></u> | S | <u> </u> | S | S | | S |
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| .0411: 1, H0556: 1, | T0002: 1, H0685: 1, | 040: 1, H0295: 1, | 0341: 1, H0661: 1, | S0354: 1, S0408: 1, | 0008: 1, S0132: 1, | 393: 1, H0640: 1, | H0411: 1, H0437: 1, | 0549: 1, H0550: 1, | S0222: 1, H0431: 1, | H0455: 1, H0559: 1, | H0485: 1, H0599: 1, | S0010: 1, H0309: 1, | 0596: 1, L0738: 1, | H0545: 1, H0150: 1, | 0123: 1, H0620: 1, | H0024: 1, H0266: 1, | .0006: 1, H0644: 1, | J0142: 1, H0628: 1, | .0455: 1, S0015: 1, | H0560: 1, H0561: 1, | S0440: 1, H0641: 1, | S0142: 1, L0598: 1, | 0529: 1, L0770: 1, | .0639: 1, L0637: 1, | .0374: 1, L0521: 1, | ,0794: 1, L0766: 1, | .0784: 1, L0806: 1, | 20655: 1, L0526: 1, | L0519: 1, L0529: 1, |
| 071 | <u></u> | 0S | H | <u>s</u> | 7.0 | <u>H</u> | 兰 | <u> </u> | 08 | <u>H</u> | H | 28 | H | <u> </u> | H | Ħ | <u></u> | <u> </u> | <u> </u> | H | <u> </u> | <u> </u> | Ī | | <u> </u> | _ <u>i</u> | <u> </u> | <u> </u> | <u>.</u> |
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| L0541: 1, L0647: 1, L0788: 1, L0666: 1, L0565: 1, S0148: 1, H0520: 1, H0690: 1, H0659: 1, H0648: 1, H0651: 1, S0328: 1, S0330: 1, S0380: 1, H0710: 1, H0709: 1, H0696: 1, H0709: 1, S0146: 1, H0555: 1, L0739: 1, L0740: 1, L0739: 1, L0780: 1, H0444: 1, S0308: 1, H0444: 1, S0308: 1, | L0595: 1, L0506: 1, L0595: 1, S0011: 1, H0653: 1 and H0506: 1. L0747: 4, L0764: 3, H0673: 2, L0665: 2, L0748: 2, L0758: 2, H0171: 1, H0556: 1, H0351: 1, L0021: 1, H0354: 1, H0616: 1, L0763: 1, L0769: 1, L0766: 1, L0773: 1, L0766: 1, L0804: 1, |
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| | | | 600259, 600259 | | |
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| | | | 7p22 | | |
| H0547: 1, H0519: 1, H0690: 1, H0658: 1, S0378: 1, S0146: 1, L0740: 1, L0589: 1 and S0106: 1. | Substitute Leu-9, Substitute Leu-9, Substitute Leu-49 to Arg-62, Substitute Leu-49 to Arg-62, Substitute Leu-49 to Arg-120, H0615: 1, H0531: 1, Arg-132 to Ser-140, T0042: 1, H0551: 1, Arg-132 to Ser-140, T0042: 1, H05494: 1, Gln-148 to Trp-155, L0657: 1, H0519: 1, Lys-235 to Asp-241, L0758: 1, L0608: 1 and Tyr-256 to Trp-266, Substitute Logical Log | H0617: 2, H0618: 1, S0052: 1 and H0593: 1. | L0766: 1, H0684: 1 and H0542: 1. | H0615: 2, H0580: 1, H0024: 1, H0428: 1, L0804: 1, H0670: 1, H0651: 1 and L0756: 1. | H0650: 1, H0656: 1, H0618: 1, H0290: 1, H0551: 1, H0477: 1, S0450: 1, H0547: 1, |
| | Gln-1 to Leu-9, S0003: 3, L0776: Thr-21 to Phe-26, S0040: 1, H0587: Leu-49 to Arg-62, S0010: 1, H0587: Thr-114 to Asp-120, H0615: 1, H0551: Arg-132 to Ser-140, T0042: 1, H0494: Gln-148 to Trp-155, L0657: 1, H0519: Pro-192 to Asn-198, S0328: 1, H0539: Lys-235 to Asp-241, L0758: 1, L0608: Tyr-256 to Trp-266, S0194: 1. Ile-273 to Glu-283, Ser-297 to Lys-304, Val-326 to Val-331. | Pro-19 to Glu-24, Ala-66 to Arg-71, Pro-81 to Tyr-88. | Lys-30 to Phe-36. | - | Gly-18 to Glu-23. |
| | 3093 | 3094 | 3095 | 3096 | 3097 |
| | 182 - 1213 | 2 - 265 | 447 - 635 | 1380 - 1282 | 3 - 1514 |
| | 918 | 919 | 920 | 921 | 922 |
| | 1059969 | 1060137 | 1060193 | 1060382 | . 1060391 |
| | HODFG47 | HBIPC05 | HOPJJ32 | HNOBN20 | HOCPX74 |

| | | 113721, 247200, 600059, 601545 |
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| | | 17p13.3 |
| H0684: 1, H0660: 1, H0555: 1, L0741: 1, L0751: 1 and H0543: 1. | L0766: 7, L0803: 5, L0809: 5, L0779: 5, L0439: 3, L0759: 3, L0439: 3, L0759: 3, L0439: 2, H0031: 2, L0591: 2, H0616: 2, L0789: 2, L0758: 2, L0731: 2, L0758: 2, L0731: 2, L0758: 2, L0758: 1, L0169: 1, H0657: 1, L0774: 1, L0805: 1, L0776: 1, L0805: 1, L0522: 1, H0547: 1, L0522: 1, H0547: 1, L0522: 1, L0748: 1, L0667: 1 and H0543: 1. | S0388: 5, H0594: 4, S0282: 3, H0598: 3, S0344: 3, S0136: 3, H0395: 2, S0280: 2, H0597: 2, S0194: 2, |
| H068 H055 L075 | | S038 S0282 S0344 H0399 H059 |
| | Ala-67 to Tyr-72, Glu-75 to Asn-81, Glu-176 to Lys-187. | Lys-10 to Ser-19. |
| | 3098 | 3099 |
| | 12 - 605 | 218 - 292 |
| | 923 | 924 |
| | 1060415 | 1060495 |
| · | HTEPP27 | HLYAJ79 |

| | 106300, 108800, 120290, 120290, 120810, 120820, 142853, 142858, 150270, 177900, 177900, 201910, 2217000, 223100, 235200, 256550, 600202, 600202, 601868, |
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| | 6p21.3 |
| H0543: 2, H0510: 1, H0316: 1, S0036: 1, H0538: 1, S0260: 1, H0445: 1, H0595: 1 and S0412: 1. | L0665: 6, L0740: 6, L0659: 5, L0774: 4, L0775: 4, L0518: 4, L0748: 4, L0754: 4, L0749: 4, S0376: 3, S0002: 3, L076: 3, L0766: 3, L0776: 3, L0766: 3, L0751: 3, L0766: 3, L0751: 3, L0769: 2, L0640: 2, L0769: 2, L0662: 2, L0768: 2, L0375: 2, L0758: 2, L0750: 2, L0758: 2, L0757: 2, L0758: 1, H0661: 1, L0772: 1, L0642: 1, L0772: 1, L0642: 1, L0764: 1, L0651: 1, L0764: 1, L0651: 1, L0767: 1, L0651: 1, L0767: 1, L0651: 1, L0768: 1, L0664: 1, L0769: 1, L0664: 1, L0791: 1, L0664: 1, |
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| H0651: 1, H0521: 1, L0744: 1, L0439: 1, L0731: 1 and L0605: 1. | L0805: 9, L0776: 8, H0585: 7, L0731: 7, L0751: 3, L0747: 3, S0282: 2, H0606: 2, H0038: 2, L0769: 2, L0803: 2, L0769: 2, L0601: 2, L0777: 2, L0601: 2, H0170: 1, S0358: 1, S0360: 1, S0358: 1, S0360: 1, H0559: 1, L0622: 1, H0427: 1, L0622: 1, H0427: 1, L0621: 1, H0494: 1, S0051: 1, H0494: 1, S0440: 1, L0794: 1, L0662: 1, L0794: 1, L0526: 1, L0794: 1, L0526: 1, L0775: 1, L0376: 1, L0794: 1, L0376: 1, L0797: 1, L0376: 1, L0783: 1, L0376: 1, |
| | Tyr-23 to Arg-29, Gln-57 to Cys-65, Flower Cys-164 to Trp-169 II S S S S S S S S S S S S S S S S S S |
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| H0660: 1, H0696: 1, S0044: 1, L0740: 1, L0750: 1, L0780: 1, | S0436: 1, H0667: 1, H0423: 1 and S0424: 1. | H0208: 1, H0024: 1, H0038: 1, L0776: 1, | H0658: 1, H0521: 1 and | H0003: 1. | | | L0771: 9, H0436: 6, | H0494: 4, L0761: 4, | L0789: 4, L0743: 4, | H0656: 3, H0581: 3, | L0764: 3, H0543: 3, | H0580: 2, H0427: 2, | H0538: 2, L0769: 2, | L0806: 2, H0699: 2, | H0689: 2, H0521: 2, | L0755: 2, H0583: 1, | H0341: 1, H0483: 1, | H0662: 1, H0550: 1, | S0222: 1, H0392: 1, | H0486: 1, S0250: 1, | H0488: 1, S0426: 1, | L0800: 1, L0662: 1, | L0768: 1, L0794: 1, | L0766: 1, L0803: 1, |
| | | Cys-38 to Thr-45, Ser-69 to Asp-79, | Leu-81 to Gly-89, | Pro-9/ to Leu-103. | Pro-10 to Arg-15, | Gly-45 to Trp-57, | Gln-1 to Arg-14, | Leu-21 to Arg-32, | Cys-44 to Cys-57. | | | | | | | | | | | | | | | |
| | | 3102 | | | 3103 | | 3104 | | • | | | | | | | | | | | | | | | |
| | | 555 - 863 | | | 801 - 1259 | | 1 - 1302 | | | | | | | | | | | | | | | | - | |
| | | 927 | | | 928 | | 929 | | | | | | | <u>.</u> | | | | | | | | | | |
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| L0659: 1, S0374: 1, | H0547: 1, H0593: 1, | 126: 1, H0435: 1, | S0152: 1, L0780: 1, | 20757: 1, L0758: 1, | H0423: 1 and H0422: 1. | | H0617: 8, L0747: 8, | L0769: 6, L0665: 5, | L0758: 5, L0717: 4, | J0794: 4, L0766: 4, | L0659: 4, L0748: 4, |)181: 3, H0494: 3, | L0638: 3, L0666: 3, | H0658: 3, L0750: 3, | L0757: 3, H0657: 2, |)255: 2, H0431: 2, |)318: 2, H0328: 2, | 006: 2, H0396: 2, | 426: 2, L0770: 2, | 771: 2, L0375: 2, | L0805: 2, L0657: 2, | 384: 2, H0659: 2, | L0744: 2, L0756: 2, | L0779: 2, L0759: 2, | L0596: 2, L0588: 2, | L0599: 2, L0593: 2, | S0026: 2, H0265: 1, | H0685: 1, H0341: 1, | H0663: 1, S0418: 1, |
|)] | H | SC | 28 | 3 | H(| | Glu-22 to Ser-36, F | Gly-43 to Asp-74, LC | | | Pro-135 to Arg-140, LC | | Asp-330 to Asp- LC | | Thr-371 to Ser-381, LC | Asp-413 to Trp-418, H0255: 2, H0431: 2, | Tyr-454 to Lys-461, H0318: 2, H0328: 2, | Gly-474 to Cys-479, T0006: 2, H0396: 2, | Gly-511 to Asp-516, 80426: 2, L0770: 2, | Glu-564 to Thr-573, L0771: 2, L0375: 2, | Phe-640 to Ala-662, L0 | Arg-700 to Leu-706, L0384: 2, H0659: 2, | Ala-737 to Tyr-743, L0 | Pro-800 to Gin-806, L0 | | _ | | H | HC |
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| 58: 1, | 32: 1, | 50: 1, | 41: 1, | 21: 1, | 48: 1, | 009: 1, | 183: 1, | 528: 1, | 574: 1, | 551: 1, | , T0004: 1, | 351: 1, | 560: 1, | S0344: 1, | 501: 1, | 764: 1, | 303: 1, | 306: 1, | 556: 1, | 790: 1, | 565: 1, | 547: 1, | 435: 1, | 672: 1, | 106: 1, | 742: 1, | 740: 1, | 754: 1, | 752: 1, |
| S0356: 1, S0358: 1 | S0360: 1, S0132: 1 | H0411: 1, H0550: 1 | S0222: 1, H04 | L0477: 1, L00 | S0346: 1, T00 | H0309: 1, H0009: 1, | H0172: 1, L0483: 1 | H0031: 1, H06 | H0673: 1, H0674: 1 | H0040: 1, H0: | H0412: 1, T00 | | H0280: 1, H0560: 1 | H0633: 1, SO: | L0762: 1, L0501: 1 | L0372: 1, L07 | L0768: 1, L0803: 1 | L0650: 1, L08 | L0776: 1, L0656: 1, | L0783: 1, LO | L2269: 1, L0565: 1, | L0438: 1, H0 | H0689: 1, H0435: | H0660: 1, H0672: 1, | S0330: 1, S0406: 1 | H0576: 1, L0 | L0439: 1, L0740: 1 | L0751: 1, L0754: 1, | L0749: 1, L0752: 1 |
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| L0755: 1, L0731: 1, S0031: 1, H0445: 1, L0587: 1, L0592: 1, L0485: 1, L0595: 1, L0601: 1, H0668: 1, S0192: 1 and S0194: 1. | H0415: 2 | H0436: 65, H0521::11, S0422: 9, L0439: 9, S0360: 8, L0754: 8, L0471: 7, H0581: 6, L0521: 6, H0520: 5, H0519: 5, H0519: 5, H0519: 4, H0529: 4, L0663: 4, L0666: 4, L0663: 4, L0664: 4, H0539: 4, L0581: 4, H0539: 4, L0581: 4, H0657: 3, S0444: 3, L0717: 3, S0474: 3, R0428: 3, H0622: 3, H0628: 3, H0628: 3, H0628: 3, H0628: 3, H0628: 3, H0648: 3, H0657: 3, S0444: 3, L0717: 3, S0474: 3, H0628: 3, H0659: 3, H0616: 3, H0643: 3, L0774: 3 |
| | Asp-78 to Gly-84, Glu-112 to Cys-117, Glu-202 to Val-207, Ser-219 to Ser-234, Pro-237 to Lys-252. | |
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| .0659; 3, H0658: 3, | S0380: 3, H0518: 3, | .0748: 3, L0779: 3, | .0777: 3, L0752: 3, | 10445: 3, H0543: 3, | H0341: 2, S0001: 2, | H0669: 2, S0418: 2, | S0420: 2, H0393: 2, | 2, H0586: 2, | H0427: 2, H0318: 2, | H0046: 2, H0457: 2, | H0373: 2, S0051: 2, | H0615: 2, L0455: 2, | H0040: 2, H0560: 2, | S0208: 2, L0598: 2, | ,0369; 2, L0776; 2, | : 2, L0517: 2, | ,0665: 2, S0374: 2, | H0660: 2, H0672: 2, | S0378: 2, L0602: 2, | S0152: 2, H0555: 2, | .0756: 2, L0758: 2, | .0599: 2, L0608: 2, | : 2, S0026: 2, | S0192: 2, H0542: 2, | H0423: 2, S0424: 2, | H0170: 1, H0686: 1, | S0040: 1, H0717: 1, | H0716: 1, H0583: 1, | H0656: 1, H0671: 1, |
| T0659: | 50380: | L0748: | L0777: | H0445: | H0341: | 6990H | S0420: | S0222: | H0427 | H0046 | H0373 | H0615 | H0040 | S0208: | T0369 | L0655: 2, | T0665 | 0990H | 80378 | 80152 | 95.0T | F0266 | L0594 | 80192 | H0423 | H0170 | S0040 | H0716 | H0656 |
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| H0663: 1, H0638: 1, | L0005: 1, S0442: 1, | S0354: 1, H0735: 1, | S0045: 1, H0619: 1, | S6026: 1, S0300: 1, | H0175: 1, H0369: 1, | H0431: 1, H0612: 1, | H0592: 1, H0587: 1, | H0331: 1, L0586: 1, | H0635: 1, H0156: 1, | H0098: 1, H0421: 1, | H0309: 1, H0263: 1, | T0110: 1, H0597: 1, | N0006: 1, H0620: 1, | T0010: 1, H0083: 1, | H0375: 1, S6028: 1, | H0687: 1, S0250: 1, | S0214: 1, H0328: 1, | H0622: 1, H0124: 1, | H0598: 1, H0400: 1, | H0163: 1, H0038: 1, | H0063: 1, H0551: 1, | T0067: 1, H0623: 1, | S0038: 1, L0564: 1, | L0370: 1, T0042: 1, | H0494: 1, H0625: 1, | H0561: 1, L0065: 1, | S0440: 1, S0150: 1, | H0641: 1, L0638: 1, | L0667: 1, L0641: 1, |
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| L0773: 1, L0648: 1, | L0662: 1, L0768: 1, | L0794: 1, L0766: 1, | L0803: 1, L0775: 1, | L0378: 1, L0806: 1, | L0654: 1, L0526: 1, | L0519: 1, L0789: 1, | L0792: 1, L0793: 1, | H0699: 1, L0565: 1, | L0438: 1, H0435: 1, | S0406: 1, S0392: 1, | H0478: 1, L0742: 1, | L0740: 1, L0747: 1, | L0750: 1, L0753: 1, | L0731: 1, S0434: 1, | S0436: 1, L0590: 1, | L0592: 1, L0604: 1, | L0366: 1, H0668: 1, | H0653: 1, H0667: 1, | H0422: 1 and S0412: 1. | L0731: 9, H0424: 6, | L0754: 6, L0758: 5, | L0662: 4, L0748: 4, | L0747: 4, L0749: 4, | | <u>н</u> | L0659: 3, L0485: 3, | H0685: 2, H0255: 2, | H0642: 2, H0031: 2, | L0657: 2, L0439: 2, |
| | | | | | | | | | | | | | | | | | | | | Arg-17 to Gly-46, | Leu-84 to Pro-133, | Glu-137 to Pro-149, | Glu-179 to Gly-185, | Arg-188 to Tyr-198. | | | | | |
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| | 22q13.1 | • |
| L0779: 2, L0599: 2, L0604: 2, H0171: 1, H0657: 1, H0671: 1, S0360: 1, S0408: 1, S0045: 1, H0587: 1, H0333: 1, L0622: 1, H0486: 1, H0013: 1, H0599: 1, H0545: 1, H0594: 1, H0548: 1, H0594: 1, H0548: 1, H0594: 1, H0648: 1, L0713: 1, H0659: 1, L0772: 1, L0764: 1, L0772: 1, L0764: 1, L0772: 1, L0764: 1, L0509: 1, L0783: 1, L0509: 1, L0783: 1, H0144: 1, H0658: 1, H0672: 1, S0330: 1, S0406: 1, S0206: 1, L0756: 1, L0593: 1, | L0748: 10, H0305: 6, H0150: 5, L0777: 5, L0731: 5, L0776: 4 | L0809: 4, L0751: 4, S0358: 3, L0157: 3, L0774: 3, L0775: 3, |
| | Arg-17 to Gln-23, Asn-63 to Gln-71. | |
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| 188826, | 190040, | 190040, | 190040 | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0664: 3, H0672: 3, | L0439: 3, L0754: 3, | L0750: 3, H0255: 2, | S0360: 2, T0039: 2, | T0006: 2, S0036: 2, | H0087: 2, H0264: 2, | H0625: 2, L0769: 2, | L0768: 2, L0651: 2, | L0663: 2, H0593: 2, | L0740: 2, L0755: 2, | L0758: 2, L0605: 2, | H0484: 1, H0402: 1, | S0418: 1, S0420: 1, | 80376: 1, 80045: 1, | S0046: 1, S0278: 1, | H0437: 1, H0392: 1, | L0468: 1, H0333: 1, | H0643: 1, H0331: 1, | H0270: 1, H0101: 1, | H0427: 1, H0004: 1, | S0010: 1, H0390: 1, | H0318: 1, H0327: 1, | H0544: 1, H0009: 1, | H0024: 1, H0071: 1, | H0266: 1, H0213: 1, | H0553: 1, H0673: 1, | H0135: 1, H0090: 1, | • | T0041: 1, H0647: 1, | S0344: 1, H0529: 1, |
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| L0637: 1, L0800: 1, L0641: 1, L0662: 1, L0766: 1, L0804: 1, L0806: 1, L0805: 1, L0657: 1, L0659: 1, L0540: 1, L0518: 1, S0053: 1, S0374: 1, S0126: 1, H0547: 1, S0180: 1, H0518: 1, H0696: 1, S3014: 1, L0742: 1, L0757: 1, H0445: 1, L0757: 1, H0445: 1, L0757: 1, | H0622: 2, L0763: 2, L0776: 2, L0759: 2, S0358: 1, H0370: 1, H0486: 1, H0013: 1, H0428: 1, H0035: 1, H0591: 1, L0783: 1, H0144: 1, S0330: 1, | AR052: 108, AR053: 84, AR096: 60, AR039: 52, AR061: 15, AR055: 14, AR089: 11, AR060: 8, AR033: 7, AR104: 6 H0494: 4, H0593: 3, |
| <u> </u> | Gly-7 to Arg-14, H0622: 2, L0763: Phe-77 to Gly-83, L0776: 2, L0759: 2 Ser-98 to Leu-106, S0358: 1, H0370: Asp-114 to Tyr-120, H0486: 1, H0013: Met-161 to Gly-167, H0591: 1, L0783: Ala-178 to Ser-183. H0144: 1, S0330: L0439: 1 and L075 | Pro-2 to Trp-11, AR052: 10 Arg-73 to Glu-79, 84, AR096 Pro-95 to Thr-103, 52, AR061 Pro-106 to Phe-115, 14, AR089 Asn-117 to Tyr-124, 8, AR033: Thr-142 to Cys-149, 6 Thr-177 to Pro-189, H0494: 4, |
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| | 936 | 937 |
| | 1061388 | 1061466 |
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| S0356: 1, S0045: 1, H0485: 1, H0486: 1, H0052: 1, H0545: 1, H0179: 1, H0039: 1 and S0148: 1. | AR052: 8, AR053: 6, AR039: 5, AR096: 5, AR033: 3, AR089: 3, AR104: 3, AR060: 3, AR104: 3, AR061: 2 H0651: 709, L0766: 5, L0754: 5, L0779: 2, L0759: 2, S0354: 1, H0643: 1, H0013: 1, H0194: 1, H0545: 1, H0647: 1, H0641: 1, H0647: 1, S0422: 1, L0520: 1, L0762: 1, L0520: 1, L0762: 1, H0144: 1, H0702: 1, H0144: 1, H0702: 1, H0436: 1, S0028: 1, L0752: 1, L0750: 1, H0777: 1, L0780: 1, |
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| Ser-196 to Cys-208, S0356: 1, S0045: 1, Gly-219 to Asp-224, H0485: 1, H0486: 1 Pro-278 to Gly-283, H0052: 1, H0545: 1 H0179: 1, H0039: 1 S0148: 1. | Cys-17 to Lys-31. |
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| S0428: 2, H0610: 1, H0179: 1, H0271: 1 and S0052: 1. | S0132: 1 | L0794: 5, L0803: 3, | L0518: 3, L0748: 3, | H0556: 2, S0360: 2, | S0422: 2, L0783: 2, | L0809: 2, L0438: 2, | L0740: 2, L0754: 2, | | | | H0657: 1, H0638: 1, | S0132: 1, H0369: 1, | H0441: 1, H0431: 1, | H0497: 1, S0280: 1, | S0010: 1, H0318: 1, | H0263: 1, H0544: 1, | F0003: 1, H0373: 1, | H0201: 1, H0032: 1, | H0673: 1, H0068: 1, | H0038: 1, H0551: 1, | S0426: 1, L0640: 1, | L0763: 1, L0638: 1, | L0662: 1, L0768: 1, L0804: 1, L0774: 1. |
| 3114 Pro-27 to His-34. | Glu-7 to Gly-12, Ala-71 to Leu-79, Ser-98 to Asp-103. | Pro-18 to Asn-25, | Ala-44 to Asn-50, | | Gly-76 to Gly-85, | | Gly-116 to Gly-121, | Gln-132 to His-138, | Thr-159 to Asp-167. L0777: 2, | • | | | | | <u> </u> | | | | | | | | |
| 3114 | 3115 | 3116 | | | | | | | | | | | | | | | | | | | | | • |
| 2 - 193 | 3 - 338 | 208 - 741 | | | • | | | | • | | | | | | | _ | | | | • | | _ | |
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| 1061543 | 1061629 | 1061694 | | | | | | | | | | | | | | | | | | | | | |
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| | 147680, 189800, 600919, 601542 |
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| | 4926 |
| L0806: 1, L0805: 1, L0787: 1, H0660: 1, H0672: 1, S0328: 1, S3014: 1, L0749: 1, L0759: 1, H0445: 1, L0581: 1 and H0216: 1 | L0748: 26, L0754: 20, L0748: 26, L0756: 8, L0777: 8, L0756: 8, L0744: 6, L0740: 6, L0744: 6, L0740: 6, L0757: 6, H0046: 5, L0757: 6, H0046: 5, L0758: 5, L0775: 5, L0758: 5, L0775: 5, L0774: 4, L0774: 4, L0774: 4, L0734: 4, L0734: 4, L0734: 4, L0734: 4, L0738: 3, H0632: 3, H0635: 3, H0635: 3, H0636: 3, L0750: 3, H0619: 2, H0559: 2, H0619: 2, H0559: 2, H0619: 2, H0559: 2, H0649: 2, H0657: 2, H06545: 2, H0657: 2, H06545: 2, H0687: 2, H0657: 2, H06545: 2, H0657: 2, |
| | Cys-4 to Asp-16, Lys-36 to Tyr-41, Pro-48 to Asp-68. |
| | 3117 |
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| H0628: 2, H0538: 2, | 0763: 2, L0770: 2, | 0764: 2, L0626: 2, | ,0804: 2, L0375: 2, | 0809: 2, S0126: 2, | 10658: 2, H0660: 2, | H0521: 2, S0390: 2, | S0027: 2, L0745: 2, | .0588: 2, L0591: 2, | _0603: 2, S0192: 2, | S0196: 2, H0170: 1, | S0040: 1, S0114: 1, | S0134: 1, L0002: 1, | 57: 1, H0341: 1, | H0663: 1, H0638: 1, | 30354: 1, S0360: 1, | S0045: 1, S0046: 1, | 30132: 1, H0351: 1, | H0550: 1, S0222: 1, | H0592: 1, H0497: 1, | H0333: 1, H0642: 1, | 10486: 1, H0244: 1, | 10036: 1, H0004: 1, | C0048: 1, H0581: 1, | 30049: 1, H0263: 1, | 46: 1, L0471: 1, | H0620: 1, H0197: 1, | H0199: 1, H0246: 1, | H0373: 1, H0083: 1, | H0356: 1, S0025: 1, |
| 90H | 707 | 107 |)80T | 108(| H06 | HOS | 300S | 1058 1058 | 106 106 | S019 | 800 _K | S013 | 90H | 90H | 803 | 2008 | S013 | H05 | H05 | H03. | H04 | H00. | T007 | S004 | H05 | 790H | H018 | H037 | H03; |
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| S0444: 1, H0637: | H0580: 1, H0645: 1 | 1039 | H0549: 1, H0613: | 1033 | 10632: 1 | .0622: | 1006 | 10427: 1, H0097: | 70082: 1, | H0581: 1, | H0310: 1 | H0231: 1, | 10544: 1, | .0158: 1, H0569: | H0123: 1, | H0024: 1, | 10201: 1, | H0179: 1, | H0288: 1, | H0688: 1 | .0483: 1 | H0165: 1, | 650] | H0264: 1, H0056: 1 | L0351: 1,7 | T0042: 1 | H0625: 1, S0464: 1, | S0438: 1, S0150: 1 | H0633: 1, H0646: 1 |
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| S0144: 1, H0538: 1, S0210: 1, L0369: 1, L0763: 1, L0371: 1, L0765: 1, L0373: 1, L0765: 1, L0649: 1, L0765: 1, L0649: 1, L0378: 1, L086: 1, L0803: 1, L0775: 1, L0805: 1, L0776: 1, L0655: 1, L0518: 1, L0792: 1, L0518: 1, H0725: 1, H0691: 1, H0689: 1, H0690: 1, H0689: 1, S0126: 1, H0670: 1, S0380: 1, H0670: 1, S0380: 1, H0552: 1, H0704: 1, H0552: 1, H0704: 1, H0555: 1, L0748: 1, H0555: 1, L0748: 1, S0032: 1, L0748: 1, L0746: 1, L0756: 1, L0746: 1, L0756: 1, S0031: 1, S0436: 1, | |
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| L0595: | S0414: | H0581: | H0641: | 1.0438: | L0751: | L0731: | H0661: | 50354: | S0046: | H0052 | S0214: | H0040 | H0520 | H0522 | L0748: | H0542 | H0657 | H0580 | H0009 | L0471 | H0039 | H0032 | H0616 | S0344 | 10794 | F0659 | H0435 |)990H | S0270 |
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| | Gly-20 to Gly-25, Leu-47 to Pro-56, Gly-63 to Glu-68, Glu-87 to Ala-99. |
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| S0242: 1 and S0276: 1. | H0038: 4, L0758: 2, S0040: 1, H0125: 1, S0420: 1, H0622: 1, H0634: 1, H0616: 1, H0623: 1, T0042: 1 and H0560: 1. | AR039: 25, AR089: 23, AR096: 18, AR053: 16, AR060: 15, AR033: 14, AR055: 10, AR104: 9, AR061: 7 L0766: 3, S0356: 2, S0222: 2, H0266: 2, L0776: 2, L0655: 2, L0777: 2, L0731: 2, H0422: 2, H0472: 1, H0483: 1, H0497: 1, H0483: 1, H0327: 1, H0577: 1, H0376: 1, S0045: 1, H0375: 1, H0014: 1, H0375: 1, S0214: 1, H0328: 1, S0214: 1, |
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| H0675: 1, S0410: 1, | H0730: 1, S0046: 1, | S0132: 1, H0592: 1, | H0586: 1, H0333: 1, | H0642: 1, H0331: 1, | H0632: 1, H0486: 1, | H0013: 1, H0427: 1, | L0021: 1, H0575: 1, | H0590: 1, S0182: 1, | H0085: 1, H0596: 1, | T0110: 1, H0546: 1, | L0157: 1, H0572: 1, | H0571: 1, H0024: 1, | L0695: 1, H0373: 1, | L0163: 1, S6028: 1, | S0003: 1, H0252: 1, | H0328: 1, H0622: 1, | T0006: 1, H0031: 1, | H0553: 1, H0628: 1, | H0166: 1, S0364: 1, | L0455: 1, H0124: 1, | H0598: 1, H0400: 1, | H0163: 1, H0090: 1, | H0616: 1, H0551: 1, | T0067: 1, H0433: 1, | H0100: 1, T0041: 1, | H0625: 1, H0561: 1, | S0448: 1, S0450: 1, | S0438: 1, H0509: 1, | H0132: 1, H0647: 1, |
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| H0649: 1, S0208: 1, H0529: 1, L0770: 1, L0637: 1, L0770: 1, L0372: 1, L0800: 1, L0374: 1, L0662: 1, L0549: 1, L0388: 1, L0774: 1, L0775: 1, L0528: 1, L0513: 1, L0528: 1, L0518: 1, L0528: 1, L0518: 1, L0528: 1, L0563: 1, H0660: 1, H0647: 1, H0660: 1, H0435: 1, H0660: 1, H0435: 1, H0660: 1, H0436: 1, S0330: 1, S0044: 1, S0206: 1, L0747: 1, L0780: 1, L0753: 1, L0780: 1, L0608: 1, L0595: 1, H0667: 1, L0097: 1, S0196: 1 and S0446: 1. | H0052: 3, H0050: 2, H0650: 1, H0657: 1, S0212: 1, S0358: 1, S0045: 1, H0586: 1, |
| | Glu-27 to Thr-34, H0652: 3, H0050: His-253 to Tyr-281, H0650: 1, H0657: 1 Glu-290 to Asp-295. S0212: 1, S0358: 1, S0045: 1, H0586: 1, |
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| | 954 |
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| | HCE4F10 |

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| H0575: 1, H0046: 1, H0292: 1, H0328: 1, H0622: 1, H0135: 1, L0766: 1, S0374: 1, H0648: 1, H0539: 1, H0521: 1, L0750: 1, L0591: 1, H0542: 1 and S0460: 1. | S0358: 1, H0370: 1, H0270: 1, H0122: 1, H0253: 1, H0545: 1, H0046: 1, H0015: 1, L0669: 1, H0617: 1, H0032: 1, H0038: 1, H0616: 1, H0658: 1, S0436: 1 and L0596: 1. | L0439: 5, L0764: 2, H0660: 2, L0749: 2, S0031: 2, L0591: 2, H0486: 1, L0471: 1, H0424: 1, H0135: 1, L0763: 1, L0769: 1, L0375: 1, L0784: 1, L0776: 1, H0478: 1 and L0776: 1, | AR060: 2, AR061: 2, AR055: 1, AR096: 1, AR033: 1, AR039: 1, |
| 東東東 豆 萬東 ラ ፩ | Ser-4 to Gln-21, His-33 to Pro-38, Arg-80 to Ser-87, Lys-133 to Tyr-139, H0253: 1, H0545: 1, Lys-133 to Tyr-139, H0046: 1, H0015: 1, Gln-162 to Phe-168, L0669: 1, H0617: 1, Ala-173 to Lys-179, H0032: 1, H0638: 1, Glu-198 to Glu-204, H0616: 1, H0658: 1, Ala-212 to Asn-218, S0436: 1 and L0596: 1 Ser-238 to Arg-245. | TOTAL TOTAL | 4 |
| | 3130 | 3131 | 3132 |
| · · | 32 - 790 | 409 - 248 | 574 - 1419 |
| | 955 | 956 | 957 |
| | 1062328 | 1062346 | 1062369 |
| · | нвсве63 | HSSJO19 | HE8NQ23 |

| AR089: 0, AR104: 0, AR053: 0 L0665: 12, L0666: 5, L0794: 4, L0664: 4, L0759: 4, H0574: 3, L0657: 3, H0031: 2, H0532: 1, H0013: 1, H0632: 1, L0598: 1, L0369: 1, L0645: 1, L0662: 1, H0144: 1, H0660: 1 and S0406: 1. | L0766: 5, L0748: 5, L0362: 4, L0755: 3, H0170: 2, H0265: 2, H0328: 2, H0494: 2, L0776: 2, L0747: 2, L0750: 2, L0731: 2, L0758: 2, H0650: 1, H0657: 1, S0001: 1, H0638: 1, S0418: 1, H0329: 1, S0007: 1, L0717: 1, T0039: 1, L0717: 1, H0097: 1, H0544: 1, L0163: 1, S0388: 1, S0051: 1, H0266: 1, H0615: 1, H0616: 1, H0615: 1, |
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| | Ala-24 to Glu-29, L0766: 5, L0748: 5 Glu-91 to Arg-110, L0362: 4, L0755: 3, Arg-115 to Trp-124, H0170: 2, H0265: 2, Ser-126 to Asp-140, H0328: 2, H0494: 2, Tyr-156 to Phe-161, L0776: 2, L0747: 2, Lys-209 to Asp-215, L0750: 2, L0731: 2, Gly-224 to Thr-230, L0758: 2, H0650: 1, Pro-254 to Phe-261, H0657: 1, S0001: 1, Thr-266 to Asp-285, H0638: 1, S0418: 1, L0717: 1, T0039: 1, L0717: 1, T0039: 1, L0717: 1, H0697: 1, H0548: 1, S0031: 1, H0266: 1, R0616: 1, H0616: 1, H0616: 1, H0616: 1, H0619: 1, |
| | 95 - 949 3133 |
| | 1062431 958 |
| | HTELJ95 |

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| الما الما الما الما الما الما الما الما | AR096: 4, AR055: 4, AR053: 3, AR089: 2, AR033: 2, AR052: 2, AR061: 2, AR060: 2, AR104: 2, AR039: 1 L0747: 5, H0623: 4, S0212: 3, S0045: 3, H0586: 3, L0439: 3, L0749: 3, L0599: 3, L0415: 2, S0046: 2, H0553: 2, H0412: 2, L0662: 2, L0659: 1, H0716: 1, T0049: 1, H0716: 1, R0356: 1, H0722: 1, H0486: 1, S0280: 1, H0475: 1, H0024: 1, H0428: 1, H0024: 1, H0428: 1, |
| | Pro-9 to Lys-24, AR096: 4, AR055: Ser-39 to Lys-46, AR053: 3, AR089: Asp-80 to Asn-86, AR033: 2, AR052: Gln-89 to Ser-103, AR061: 2, AR060: Phe-112 to Thr-123, AR104: 2, AR039: Gln-260 to Ser-272, L0747: 5, H0623: Asp-283 to His-289, S0212: 3, S0045: 3, Pro-341 to Glu-351, H0586: 3, H0427: 3 Arg-382 to Arg-389, L0749: 3, L0599: 3, Arg-382 to Arg-389, L0749: 3, L0599: 3, Arg-396 to Gly-410, L0415: 2, S0046: 2, Tyr-415 to His-477, H0553: 2, H0412: 2, Ile-477 to Lys-486, L0662: 2, L0659: 2, Lys-692 to Leu-700, H0716: 1, T0049: 1, Lys-692 to Leu-700, H0716: 1, H0486: 1, S0280: 1, H0575: 1, H0024: 1, H0575: 1, H0024: 1, H0575: 1, H0024: 1, H0428: 1 |
| | 3134 |
| | 3 - 2138 |
| | 959 |
| | 1062435 |
| | HTPCP50 |

| H0039: 1, T0006: 1, H0032: 1, H0090: 1, H0268: 1, H0413: 1, H0509: 1, L0375: 1, L0789: 1, L0666: 1, S0126: 1, H0670: 1, H0539: 1, H0521: 1, S0032: 1, L0754: 1, L0779: 1, L0759: 1, H0444: 1 and S0434: 1. | Gly-1 to His-6, Thr-55 to Gln-61, L0372: 3, L0750: 3, Cys-63 to Asp-70, L0755: 3, S0422: 2, Gly-132 to Gly-137, L0766: 2, L0663: 2, Lys-146 to Gly-152, S0152: 2, L0779: 2, H0253: 1, H0341: 1, H0255: 1, S0376: 1, S0410: 1, H0592: 1, H0497: 1, H0615: 1, H0497: 1, H0494: 1, L0771: 1, L076: 1, L0769: 1, L076: 1, L0769: 1, L0773: 1, L0771: 1, L0773: 1, L0775: 1, L0655: 1, L0775: 1, L0655: 1, L0775: 1, L0655: 1, |
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| | 3135 Gly Cys. Pro-Pro-Pro-Pro-Pro-Pro-Pro-Pro-Pro-Pro- |
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| AR039: 4, AR089: 3, AR055: 3, AR096: 3, AR060: 2, AR053: 2, AR033: 1 L0439: 6, H0620: 4, L0758: 2, S0040: 1, H0661: 1, H0619: 1, H0549: 1, L0770: 1, H0135: 1, L0770: 1, L0769: 1, L0770: 1, L0769: 1, L0778: 1, H0593: 1, H0593: 1, H0593: 1, H0593: 1, L0753: | H0624: 5, L0748: 4, S0222: 3, H0441: 2, H0013: 2, H0144: 2, L0745: 2, H0170: 1, H0171: 1, S0007: 1, |
| Pro-10 to Val-15, Ala-42 to Lys-48, Asn-99 to Glu-104, Ile-114 to Gln-119, Asp-130 to Gly-137, Leu-167 to Tyr-175, Pro-187 to Glu-192, Arg-219 to Pro-224, Ala-233 to Thr-240. | |
| 3136 | 3137 |
| 2 - 1663 | 1300 - 1079 |
| 961 | 962 |
| 1062544 | 1062574 |
| HFKJT82 | HE2LW42 |

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| | 192340, 234200 |
| | 20p13 |
| H0156: 1, L0471: 1, H0051: 1, H0604: 1, H0135: 1, S0386: 1, L0521: 1, L0776: 1 and L0754: 1. | L0743: 7, L0731: 7, H0024: 5, H0264: 5, H0547: 5, L0439: 5, L0756: 5, L0764: 4, L0777: 4, L0752: 4, H0622: 3, H0163: 3, S0386: 3, H0529: 3, L0769: 3, L0809: 3, H0144: 3, H0435: 3, L0748: 3, L0747: 3, S0412: 3, S0449: 2, S0358: 2, H0549: 2, H0013: 2, H0341: 2, S0358: 2, H0549: 2, H0035: 2, H0644: 2, H0083: 2, H0644: 2, H0083: 2, L0644: 2, H0135: 2, S0002: 2, L0770: 2, L0771: 2, L0649: 2, L0838: 2, H0520: 2, H0538: 2, |
| | Glu-46 to Ser-59, Asn-85 to Ser-98. |
| | 3138 |
| | 141 - 2561 |
| | 963 |
| | 1062586 |
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| 0404: | 3028: | .0741: 2, L0751: 2, | .0750: 2, S0434: 2, | L0591: 2, | 0624 | 10265 |)134: | 9414 | 0402 | 9442 | 0132: | H0619: 1, L0717: | H0437: 1, H0550: | H0600: 1, H0587: | T0114: | , S0280: | H0042: 1, H0575: 1 | , T0048: | H0581: 1, H0052: | H0596: 1, H0009: | .0471: 1, T0010: | S6028: 1, H0188: 1 | H0428: 1, L0483: 1 | H0553: 1, H0032: | H0674: 1, H0124: | S0036: 1, H0090: 1 | H0591: 1, H0038: | H0616: 1, H0551: | H0268: 1, H0623: |
| : 2, S | . 2, S(| :2,L | : 2, S | : 2, L | : 2, H | : 1, H | : 1, S(| : 1, I | 1, H | . 1. S | . 1, S |): 1, L | 7: 1, F |): 1, F | 5: 1, T | | 2: 1, F | D: 1, T | l: 1, F | 5: 1, F | l: 1, T | 1, E | 8: 1, I | 3: 1, I | 4: 1, I | 5: 1, F | 1: 1, 1 | 6: 1, 1 | .; .; |
| H0518: 2, S0404: 2, | S3014: 2, S0028: 2, | .0741 | 0750 | .0605: 2, | 0362 | H0171: 1, H0265: 1, | 36024 | H0583: 1, L0414: | S0282: 1, H0402: | S0356: 1, S0442: | S0376: 1, S0132: | H0619 | H0437 | H0600 | H0486: 1 | H0635: 1 | H004; | H0590: 1, | H058 | H059 | 1047 | S6028 | H042 | H055 | H067 | S003 | H059 | H061 | H026 |
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| | 107741, 113900, 122720, 122720, 126340, 126391, 169000, 164731, |
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| | 19q13.1- q13.2 |
| H0100: 1, H0560: 1, S0142: 1, H0538: 1, S0422: 1, S0426: 1, L0762: 1, L0763: 1, L0772: 1, L076: 1, L0772: 1, L076: 1, L0775: 1, L076: 1, L0775: 1, L076: 1, L075: 1, L0783: 1, L055: 1, L0789: 1, L0791: 1, L066: 1, L0791: 1, L066: 1, H0659: 1, H0689: 1, H0659: 1, R0374: 1, S0126: 1, R0374: 1, S0126: 1, R089: 1, H0659: 1, R089: 1, H0659: 1, R089: 1, S0176: 1, S0406: 1, S0176: 1, S0406: 1, S0436: 1, L0769: 1, | S0011: 1, S0242: 1, S0194: 1, S0276: 1, H0542: 1 and S0460: 1. L0777: 5, L0750: 4, L0758: 4, H0549: 2, H0550: 2, H0333: 2, H0687: 2, H0688: 2, L0809: 2, L0743: 2, H0265: 1, H0556: 1, S0358: 1, H0645: 1, H0599: 1, H0575: 1, |
| | His-30 to His-35. |
| | 3139 |
| | 547 - 1782 |
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| | HOVJJ72 |

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| 172400, | 173850, | 180901, | 180901, | 207750, | 221770, | 248600, | 258501, | 600918, | 602716 | | | | | | 126060, | 143200, | 143200, | 181510, | 253200, | 268800, | 268800, | 600354, | 600354, | 600354 | | | | |
| | | | | | | | | | | | | | | | 5q13 | | | | | | | | | | | | | |
| H0428: 1, H0163: 1, | H0646: 1, L0770: 1, | L0769: 1, L0637: 1, | L0772: 1, L0774: 1, | L0378: 1, L0806: 1, | L0663: 1, S0330: 1, | H0539: 1, S0190: 1, | H0540: 1, L0744: 1, | L0748: 1, L0747: 1, | L0779: 1, L0780: 1, | L0731: 1, S0276: 1 and S0424: 1 | H0328: 2 and H0581: | <u>-</u> | | | H0328: 9, L0659: 7, | L0662: 6, H0135: 4, | L0750: 4, S0360: 3, | H0329: 3, H0373: 3, | L0375: 3, L0744: 3, | H0392: 2, H0046: 2, | S0364: 2, H0163: 2, | H0100: 2, L0743: 2, | 50356: 1, 50222: 1, | H0486: 1, H0618: 1, | H0439: 1, L0471: 1, | S0362: 1, H0038: 1, | L0520: 1, L0769: 1, | L0637: 1, L0650: 1, |
| | | *************************************** | | | | | | | | | Gln-1 to Glu-8, | Ser-17 to Asn-23, | Glu-48 to Leu-54, | Asn-78 to Ser-83. | Ala-1 to Ser-6, | Thr-16 to Gln-23, | Pro-28 to Asn-34, | Glu-43 to Cys-49, | Asp-95 to Gly-100. | 4 | - | | • | | | | | |
| | | | | | | | | - | | | 3140 | | | | 3141 | | | | | | | _•_ | | | | | | |
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| L0789: 1, L0664: 1, H0144: 1, H0690: 1, H0660: 1, S0028: 1, L0740: 1, L0759: 1, L0589: 1, S0242: 1 and H0352: 1. | AR039: 26, AR033: 17, AR104: 17, AR052: 15, AR052: 14, AR089: 13, AR055: 12, AR061: 14, AR060: 14, AR060: 14, AR060: 13, AR055: 12, AR061: 7 H0617: 8, L0747: 8, L0758: 5, L0778: 4, L0766: 4, L0766: 4, L0769: 4, L0766: 3, L0659: 4, L0748: 4, H0181: 3, H06494: 3, L0658: 3, L0666: 3, H0255: 2, H0431: 2, H0318: 2, H0318: 2, L0770: 2, L0771: 2, L0375: 2, L0805: 2, L0657: 2, L0805: 2, L0769: 2, L0744: 2, L0756: 2, L0779: 2, L0779: 2, L0779: 2, L0779: 2, L0877: 2, L0877: 2, L0877: 2, L0779: 2, L07 |
| | Lys-1 to Glu-7, Thr-20 to Glu-35, Ser-54 to Glu-62. |
| | 3142 |
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| L0596: 2, L0588: 2, | L0599: 2, L0593: 2, | S0026: 2, H0265: 1, | H0685: 1, H0341: 1, | H0663: 1, S0418; 1, | S0356: 1, S0358: 1, | S0360: 1, S0132: 1, | H0411: 1, H0550: 1, | S0222: 1, H0441: 1, | L0477: 1, L0021: 1, | S0346: 1, T0048: 1, | H0309: 1, H0009: 1, | H0172: 1, L0483: 1, | H0031: 1, H0628: 1, | H0673: 1, H0674: 1, | H0040: 1, H0551: 1, | H0412: 1, T0004: 1, | H0102: 1, L0351: 1, | H0280: 1, H0560: 1, | H0633: 1, S0344: 1, | L0762: 1, L0501: 1, | L0372: 1, L0764: 1, | L0768: 1, L0803: 1, | L0650: 1, L0806: 1, | L0776: 1, L0656: 1, | L0783: 1, L0790: 1, | L2269: 1, L0565: 1, | L0438: 1, H0547: 1, | H0689: 1, H0435: 1, | H0660: 1, H0672: 1, |
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| | | 107250, 181600, 189800, 266300 |
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| | | 4q31 116 |
| S0330: 1, S0406: 1, H0576: 1, L0742: 1, L0439: 1, L0740: 1, L0751: 1, L0754: 1, L0749: 1, L0752: 1, L0755: 1, L0731: 1, S0031: 1, H0445: 1, L0587: 1, L0592: 1, L0485: 1, L0595: 1, L0601: 1, H0668: 1, S0192: 1 and S0194: 1. | S0360: 2, H0266: 2, S0330: 2, L0748: 2, H0556: 1, S0442: 1, S0358: 1, S0046: 1, L0471: 1, H0024: 1, H0634: 1, H0494: 1, H0560: 1, L0800: 1, L0803: 1, H0593: 1, H0435: 1, H0651: 1, H0521: 1, H0522: 1, S0406: 1, L0747: 1 and | S0422: 8, H0710: 8, 80422: 8, L0471: 7, H0542: 7, H0580: 6, H0642: 6, H0659: 6, L0748: 6, H0486: 5, H0543: 5, H0656: 4, H0341: 4, |
| | Asp-32 to Leu-43, S0360: 2, H0266: 2 Leu-47 to Arg-53, S0330: 2, L0748: 2, Glu-95 to Phe-102, H0556: 1, S0442: 1, Leu-123 to Val-130, S0358: 1, S0046: 1, Leu-146 to Gly-154, L0471: 1, H0024: 1, Asp-186 to Glu-192, H0634: 1, H0494: 1, Glu-246 to Ser-255, H0560: 1, L0800: 1, Asp-296 to Arg-302, L0803: 1, H0593: 1, Ser-334 to Ala-347. H0435: 1, H0651: 1, Sor-334 to Ala-347. H0521: 1, H0521: 1, S0406: 1, L0747: 1 s | Thr-1 to Glu-10, Arg-20 to Leu-26, Gly-37 to Ser-49, Cys-58 to Ser-69, Lys-79 to Lys-85, Ser-88 to Glu-96, Ala-99 to Ser-135, |
| | 3143 | 3144 |
| | 60 - 1124 | 83 - 814 |
| · | 896 | 696 |
| | 1062655 | 1062679 |
| , | HTXJE60 | HUSIQ62 |

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| Ser-142 to Glu-151, S0360: 4, S0440: 4, | | H0581: 3, H0428: 3, | H0551: 3, L0667: 3, | L0662: 3, L0766: 3, | L0655: 3, L0666: 3, | L0749: 3, L0758: 3, | L0362: 3, H0668: 3, | T0002: 2, H0650: 2, | H0662: 2, H0393: 2, | H0497: 2, H0013: 2, | H0266: 2, H0412: 2, | S0150: 2, H0529: 2, | L0646: 2, L0375: 2, | L0606: 2, H0144: 2, | H0698: 2, H0521: 2, | L0740: 2, L0750: 2, | L0588: 2, L0605: 2, | L0608: 2, S0192: 2, | H0170: 1, L0615: 1, | H0686: 1, H0685: 1, | S0040: 1, H0663: 1, | H0402: 1, H0449: 1, | H0459: 1, S0418: 1, | S0420: 1, S0358: 1, | S0376: 1, H0369: 1, | H0069: 1, L0021: 1, | T0082: 1, H0421: 1, | H0744: 1, H0251: 1, |
| Ser-142 to | Ala-199 tc | | • | | | | | | | | | | | | | | | | | | • | | | | | | | |
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| 20: 1, | 29: 1, | 57: 1, | 53: 1, | 33: 1, | 40: 1, | 13: 1, | 50: 1, | 41: 1, | 59: 1, | 1: 1, | 2: 1, | 8: 1, | 4: 1, | 2: 1, | 6: 1, | 3: 1, | 0: 1, | 3: 1, | 5: 1, | 99. 1, | 3: 1, | 20: 1, | 6: 1, | 33: 1, | 50: 1, | 8: 1, | 6: 1, | 9: 1; | 15: 1, |
| H0620: | H06 | H02 | 1, H0553: 1 | l, H0163: | , H0040: | H0413: | H0560: 1 | H06 | 1.0769: | L0761: | L0372: | L0768: | 1.077 | L0652: | L0656: | 1.562 | L0790: 1 | 1066 | 1066 | , H0699: | 1, H0723: | H0520: | S012 | H0683: | , H0660: | S032 | H0696: | 1.07 | H04 |
| l –-ï | H0350: 1, H0629: | 5: 1, | 52: 1, | 6: 1, | | | Į, | • | • | 5: 1, | 3: 1, | 0:1 | 4. | 6: 1, | 7: 1, | - - | | <u>~</u> | | | 4: 1, | | | | | H0666: 1, S0328: | | | .0755: 1, H0445: |
| H0457: | H035 | H0375: | H0252: 1 | S0366: | H0090: 1 | H026 | L0475: | H0561: 1 | H0538: 1 | L5575: | L0373: | L0800: | L0364: | 1.0806: | L0657: | L3872: | L0789: 1 | 1.0792: | L0664: | H0702: | S0374: 1 | H0726: | H0519: | H0682: 1 | H0684: | H066 | S0380: 1 | L074 | 1.075 |
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| S0434: 1, L0591: 1 and S0026: 1. | H0659; 1 and L0758: 1. | AR096: 7, AR104: 7, AR089: 5, AR033: 4, AR060: 4, AR053: 2, AR039: 0 AR061: 1, AR055: 0, AR039: 0 S0358: 6, L0659: 6, L0805: 3, L0655: 3, L0655: 3, L0655: 3, L0776: 2, L0774: 2, L0776: 2, L0777: 2, L0649: 2, L0777: 2, L0666: 2, L0776: 2, L0777: 2, L0665: 1, H0638: 1, H0637: 1, L0717: 1, S0278: 1, R0642: 1, H0642: 1 |
|----------------------------------|--|--|
| | Arg-1 to Gly-14, Glu-24 to Ile-34, Glu-40 to Phe-52. | Glu-16 to Ser-23, AR096: 7, AR104: Tyr-32 to Ala-44, AR089: 5, AR033: Leu-56 to Ala-70, AR060: 4, AR055: Ser-85 to Thr-91, AR061: 1, AR055: Glu-102 to Lys-108, AR039: 0 Glu-116 to Leu-122, S0358: 6, L0659: 6 Leu-136 to Leu-170, L0665: 3, H0670: 3, Val-183 to Asp-191. L0755: 3, S0026: 3, S0360: 2, S0003: 2, L0774: 2, L0776: 2, L0666: 2, L0777: 2, L0776: 2, L0666: 2, L0777: 2, L0778: 2, L0663: 2, L0777: 2, L0758: 3, H0637: 1, H0638: 1, H0637: 1, H0638: 1, H0637: 1, H0649: 1, H0642: 1, H0648: 1, H0632: 1, H0251: 1, H0036: 1, H0251: 1, H0036: 1, L0157: 1, L0771: 1, H0083: 1, S0214: 1, H0083: 1, L0083: |
| | 3145 | 3146 |
| | 206 - 361 | 945 - 1562 |
| | 970 | 971 |
| | 1062686 | 1062718 |
| | HPCTC48 | HKBAK29 |

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| H0039: 1, H0644: 1, H0165: 1, H0674: 1, H0090: 1, H0040: 1, H0412: 1, H0413: 1, H0625: 1, H0529: 1, L0646: 1, L0768: 1, L0775: 1, L0784: 1, L0634: 1, L0784: 1, H0520: 1, S0126: 1, H0689: 1, H0683: 1, H0666: 1, H0648: 1, H0659: 1, H0521: 1, S0044: 1, S3014: 1, L074: 1, L0756: 1, L0752: 1, L0757: 1, L0752: 1, L0485: 1, H0423: 1, H0422: 1 and H0423: 1, H0422: 1 and | L0599: 2, H0271: 1, H0031: 1 and H0623: 1. | L0747: 4, H0620: 3, S0051: 3, H0424: 3, L0749: 3, L0756: 3, L0755: 3, H0295: 2, S0300: 2, H0333: 2, H0024: 2, H0100: 2, L0794: 2, L0774: 2, H0672: 2, L0744: 2, |
| | Ser-12 to Trp-23, Tyr-25 to Tyr-32, Pro-34 to Phe-41. | |
| | 3147 | 3148 |
| | 329 - 682 | 3 - 1910 |
| | 972 | 973 |
| | 1062743 | 1062785 |
| | HPMCX26 | HFKHF51 |

| L0754: 2, L0777: 2, | L0731: 2, L0759: 2, | S0412: 2, S0420: 1, | S0222: 1, S0005: 1, | S0049: 1, H0320: 1, | S0250: 1, H0213: 1, | H0417: 1, H0068: 1, | L0564: 1, H0494: 1, | L0771: 1, L0803: 1, | L0775: 1, L0382: 1, | L0809: 1, L0367: 1, | L0787: 1, L0791: 1, | L0793: 1, S0126: 1, | H0690: 1, SQ380: 1, | L0612: 1, S3014: 1, | L0779: 1, L0757: 1, | S0260: 1, L0592: 1 and | L0603: 1. | AR096: 1, AR055: 1, | AR089: 1, AR061: 0, | AR060: 0, AR033: 0, | AR052: 0, AR104: 0 | L0766: | H0716: 2, S0420: 2, | L0769: 2, L0803: 2, | L0779: 2, H0656: 1, | H0484: 1, S0418: 1, | S0444: 1, H0580: 1, | H0730: 1, H0619: 1, | H0411: 1, H0592: 1, |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-----------|---------------------|---------------------|---------------------|--------------------|---------------------|---|--|---------------------|--------------------------------------|--------------------------------------|---------------------|---------------------|
| | | | | | | | | | | | | | | ٠ | | | | Lys-16 to Gly-23, | Glu-33 to Val-43, | Ser-55 to Ala-67, | Gln-82 to Pro-97, | Thr-108 to Gln-124, | Pro-151 to Glu-157, H0716: 2, S0420: 2, | Leu-184 to Cys-194, L0769: 2, L0803: 2 | Ala-218 to Pro-225, | Pro-227 to Asp-243, H0484: 1, S0418: | Lys-304 to Ser-324. S0444: 1, H0580: | • | |
| | | | | | | | | | | | | | | | | | | 3149 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 71 - 1090 | | | | | | | | | | | |
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| H0427: 1, H0581: 1, H0052: 1, H0494: 1, L0774: 1, L0775: 1, L4501: 1, L0665: 1, S0374: 1, H0539: 1, S0404: 1, L0743: 1, L0745: 1, L0749: 1, L0777: 1, L0752: 1, S0436: 1 and L0097: 1. | Phe-12 to Thr-19, L0361: 2, H0170: 1, Thr-26 to Cys-36, H0341: 1, H0663: 1, Thr-54 to Lys-50, S0358: 1, S0045: 1, Hr-54 to Gly-65, H0392: 1, H0586: 1, His-81 to Lys-88, H0488: 1, H0509: 1, Thr-110 to Lys-116, L0763: 1, L0665: 1, Phe-124 to Thr-131, S0044: 1, L0779: 1 and Thr-138 to Lys-14, L0593: 1. Ser-156 to Thr-162, His-165 to Lys-172, Asn-181 to Thr-187, Thr-194 to Lys-200, Thr-222 to Glu-230. | | | | | | H0713: 5, H0684: 2, |
| | Phe-12 to Thr-19, Thr-26 to Cys-36, Thr-45 to Lys-50, Thr-54 to Gly-65, His-81 to Lys-88, Thr-110 to Lys-116, Phe-124 to Thr-131, Thr-138 to Lys-144, Ser-156 to Thr-162, His-165 to Lys-172, Asn-181 to Thr-187, Thr-194 to Lys-200, Thr-222 to Glu-230. | Arg. 1 to Cue. 10 | Alg-1 to Cys-10. | | | | - |
| | 3150 | 3151 | 3153 | 3154 | 3155 | 3156 | 3157 |
| | 1 - 708 | 91 - 303 | 2 - 124 | 1 - 81 | 52 - 342 | 2 - 199 | 2 - 478 |
| | 975 | 976 | 978 | 979 | 086 | 981 | 982 |
| | 1062840 | H6EDQ51R | HACBX26 HACBX26R | HACMD23R | HACMF32R | HACMH54R | HACMH72R |
| | | H6EDQ51 | HACBX26 | HACMD23 | HACMF32 | HACMH54 | HACMH72 |

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| H0685: 1, H0689: 1 and H0683: 1 | H0685: 2, S0422: 1, | | | L0747: 25, S0358: 11, | .0/55: 9, L0/40: /, .0758: 7 1 0775: 6 | H0659: 6, L0742: 6. | H0545: 5, S0406: 5, | .0750: 5, LQ756: 5, | J0757: 5, L0362: 5, | S0026: 5, H0580: 4, | S0007: 4, H0413: 4, | H0494: 4, S0440: 4, | .0520: 4, L0769: 4, | .0731: 4, H0543: 4, | H0295: 3, H0341: 3, | S0444: 3, H0581: 3, | H0529: 3, L0770: 3, | .0766: 3, L0382: 3, | H0436: 3, L0744: 3, | _0361: 3, H0686: 2, | S0134: 2, S0218: 2, | H0419: 2, H0484: 2, | S0442: 2, S0360: 2, | S0045: 2, H0486: 2, | H0427: 2, L0021: 2, | H0594: 2, T0023: 2, |
| | | | Ser-9 to Phe-14. | Glu-113 to Gly-118. | -1. ≒ | 1 11 | _11 | | <u> </u> | S | S | <u>:</u> | | <u> </u> | <u>114</u> | S | <u>11</u> | | <u> </u> | | S | | S | S | <u> </u> | ш. |
| | 3158 | 3159 | 3160 | 3161 | | | | | | | | | | - | | | • | | | | | | | | | |
| | 1 - 84 | 221 - 451 | 3 - 116 | 3 - 419 | | | | | | | | | | | | | | | | | | | | | | |
| | 983 | 984 | 985 | 986 | | | | | | | | | | | | | • | | | - | | | | | | |
| | HACMM26 HACMM26R | HACMM56 HACMM56R | HACMS55R | HACMX77 HACMX77R | | | | | | | | | | | | | | | | | | | | | | |
| | HACMM26 | HACMM56 | HACMS55 | HACMX77 | | | | | | | | | | | | | | | | | | | | | | |

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| ~ົເ | ٠. | | | | | • | • | • | _ | _ | _ | 5 | | - | | _ | _ | | _: | . : | _ : | . : | - | | | • | - | • | • |
| H0063: 2, H0551: 2, | H0560: 2, L0761: 2, | .0773: 2, L0648: 2, | 0521: 2, L0768: 2, | .0653: 2, L.0654: 2, | .0776: 2, L0526: 2, | S0374: 2, H0689: 2, | H0670: 2, S0028: 2, | % 2 | .0439: 2, L0751: 2, | 0754: 2, L0749: 2, | .0752: 2, L0759: 2, | 5:2 | 55: 1 | 7.7 | H0657: 1, S0116: 1, | 1: 1, | H0192: 1, S0376: 1, | 8: 1 | 70:1 | 8:1 | 37: 1 | 31: 1 | | F0082: 1, H0318: 1, | 1:1 | 74: 1 | 30:1 | H0544: 1, H0123: 1, | H0050: 1, L0471: 1, |
| 105 | ,07 | 8 | 920 | .065 | 052 | 1068 | 3002 | S0206: 2, L0748: | 203 | 074 | .075 | H0445: 2, L0595: 2 | H0171: 1, H0265: 1 | H0685: 1, H0294: | 3011 | S0212: 1, S0001: 1 | 3037 | 3040 | H0431: 1, H0370: | H0392: 1, H0600: | H0586: 1, H0587: | H0543: 1, H0331: | T0060: | 1031 | H0251: | H0309: 1, H0054: | H0327: 1, H0530: | 1017 | 240 |
| , 2, I | 2,1 | 2, I | 2, I | 2, L | 2, L | 2, E | 2,5 | 2, L | 2, I | 2, L | 2, I | 2,1 | 1, F | 1, F | 1,5 | 1, S | 1, 5 | 1, 5 | 1, F | 1, F | 1, I | 1, F | 1,1 | 1, F | 1, H | 1, F | 1, | 1, 1 | 1, I |
| 963: | 560: | 773: | 521: | 553: | 776: | 374: | 670: | 206: | 139: | 754: | 752: | 45 : | 171: | 585: | 557: | 212: | 192: | 576: | 431: | 392: | 586: | 543: | H0632: 1, | 382: | 50049: 1, | 309: | 327: | ¾ | 50 |
| Ĕ | HO. | 9 | <u>ö</u> | <u>Š</u> | 3 | 80 | Ĕ | <u>S07</u> | <u>Ě</u> | 9 | 3 | Ë | <u>H</u> | Ě | Ĕ | <u>S07</u> | 9 | <u>Ř</u> | ΪÓ | HO. | Ë. | ĎH. | <u>Ř</u> | ğ | <u>8</u> 00 | H0. | <u>H</u> | 9 | Й |
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| H0012: 1, H0620: 1, | H0014: 1, H0373: 1, | 0051: 1, H0510: 1, | H0266: 1, S0022: 1, | 10428: 1, H0169: 1, | H0674: 1, S0036: 1, | 10380: 1, H0412: 1, | F0042: 1, L0475: 1, | 0438: 1, H0509: 1, | 0150: 1, H0647: 1, | S0344: 1, S0210: 1, | H0026: 1, L0506: 1, | • | .0764: 1, L0771: 1, | .0767: 1, L0522: 1, | .0774: 1, L0375: 1, | .0655: 1, L.0661: 1, | ,0807: 1, L0657: 1, | .0659: 1, L0384: 1, | .0383: 1, L0519: 1, | .0532: 1, L0666: 1, | H0144: 1, T0068: 1, | HO547: 1, HO519: 1, | S0126: 1, H0682: 1, | H0658: 1, S0378: 1, | S0380: 1, H0525: 1, | H0521: 1, H0522: 1, | H0696: 1, H0555: 1, | S0392: 1, H0478: 1, | H0631: 1, S3012: 1, |
| H | Ĭ | H | Ē | Ī | Ï | 耳 | Ĕ | <u>S</u> | S | Š | H | <u> </u> | <u> </u> | <u> </u> | 1 | 그 | <u> </u> | <u>, ,)</u> | <u> 1</u> | <u> </u> | <u>æ</u> | <u>II.</u> | S | <u>::</u> | S | <u>;14</u> | <u>;14</u> | <u>s</u> | |
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| L0779: 1, L0753: 1, S0434: 1, L0588: 1, L0485: 1, H0668: 1, H0653: 1, H0136: 1, S0196: 1, H0542: 1, H0422: 1 and H0008: 1. | | H0617: 9, H0618: 4, | L0774: 4, L0439: 4, | L0750: 4, L0766: 3, | | L0748: 3, L0747: 3, | L0777: 3, L0752: 3, | L0758: 3, H0685: 2, | H0333: 2, H0559: 2, | H0100: 2, L0644: 2, | L0542: 2, L0565: 2, | L0438: 2, L0587: 2, | S0040: 1, S0114: 1, | H0589: 1, S0418: 1, | S0420: 1, S0356: 1, | S0376: 1, H0580: 1, | H0351: 1, H0411: 1, | S0278: 1, H0549: 1, | S0222: 1, H0431: 1, | H0438: 1, T0109: 1, | H0427: 1, S0280: 1, |
| | Thr-11 to Gly-16, Ser-49 to Ser-55, Ile-64 to Gly-69. | Gln-1 to Lys-6. | | | | | | | | | | | | | | | | | | | |
| | 3162 | 3163 | • | | | | | | | | | | | | | | | | | | |
| | 3 - 245 | 2 - 274 | | • | | | | | | | | | | | | | - | | | | |
| | 286 | 886 | | | | | | | | | | | | | | | | | | | |
| | HACMZ45 HACMZ45R | HACND54 HACND54R | | | | | | | | | | | | | | | | | • | | |
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| L0021: 1, H0599: 1, | H0318: 1, H0052: 1, | H0544: 1, H0046: 1, | H0024: 1, H0373: 1, | H0051: 1, H0071: 1, | F0010: 1, H0266: 1, | H0615: 1, T0006: 1, | H0604: 1, H0213: 1, | H0087: 1, H0264: 1, | | ์ —๋ | H0647: 1, S0208: 1, | • | L0642: 1, L0643: 1, | | _ | L0783: 1, L0809: 1, | L0789: 1, L0790: 1, | L0666: 1, L0665: 1, | H0547: 1, H0519: 1, | H0658: 1, H0660: 1, | H0651: 1, S0330: 1, | S0380: 1, S0146: 1, | S0406: 1, H0576: 1, | H0478: 1, L0749: 1, | L0780: 1, L0755: 1, | S0192: 1 and H0352: 1. | H0457: 4, S0474: 3, |
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